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EDITORIAL.

A SHORT time since, in a paper read before the New York Academy of Sciences, it was proposed that the Eucalyptus globulus should be planted in the public parks of this city as a means of increasing the healthfulness of their neighborhood. It was acknowledged that this variety of Eucalyptus is not capable of withstanding frost, to say nothing of the extremely low temperature which prevails here for so many weeks of the year; but the proposer of the scheme hoped that by a process of acclimatization the tree might, in time, undergo such changes as would permit it to be reared successfully.

There is little doubt that varieties of the Eucalyptus, like many other plants and trees, may, by judicious culture, be made to adapt themselves in a degree to different climates; but they cannot be expected to remain, in all characteristics, the same as when found in their natural home; and to presume that the Eucalyptus globulus would, under the circumstances, retain its antimalarial qualities, is very problematical as yet.

Indeed, it is quite as likely that the changes wrought in the face of the country by the progress of civilization (drainage, cultivation, etc.) will have eradicated the conditions which favor the development of malaria long before the "fever tree" shall have become habituated to its surroundings.

In a recent letter written by Prof. Flückiger from the northern shore of the Mediterranean to the *Neues Repertorium für Pharmacie*, the author gives a description of the Eucalyptus globulus with especial reference to its appearance on the Riviera. It would seem that almost everything that can be said about this interesting tree has already been made public; but the letter of Professor Flückiger contains so much regarding its possible utility in its new home, that we give a portion of it as an accompaniment to the plate which is added to this number of NEW REMEDIES.

It must be remembered, however, that the localities where he found it are rarely or never visited by frost. We have yet to learn of an instance where it has been reared extensively in open air outside the limit of growth of the orange, palm, and olive, and we shall as much expect to see the Eucalyptus flourish in our climate as either of the latter.

It is already well known that flowering plants which have an odor develop ozone in growing, in proportion to the strength of their perfume: and that during their flowering season, in malarial regions, the effects of malarial poisons are not observed. When the centre of New York State was first settled by white people, it was customary to plant sunflowers in the banks of earth that were piled against the foundations of their log cabins, and it was a matter of observation that malarial fevers became less troublesome.

An officer of the Engineer Corps of the U. S. Army recently informed us that, being stationed during the war on the Potomac River in one of its most malarious portions, he surrounded his quarters with a thick *cordon* of sunflowers, and escaped any trouble from ague.

Dr. Salvatore Caro, of this city, says that in the Italian province of Romagna, where there is much malarial fever, and where the chamomile is largely grown as an article of produce, no cases of malarial fever occur so long as the plants are in flower.

How much of the anti-malarial property of the Eucalyptus is due to the aroma of its leaves, and how much, if any, to its rapid growth and its power of absorbing moisture from the soil, is not determined, but unless some special virtue can be found to exist in the odor it gives off we can see no advantage which it possesses, for our climate, over numbers of our flowering plants except the mass of leaves which it exposes to the surrounding air. It is very questionable, however, if it would attain in this climate to any such size as it does in the Riviera or in Tasmania, since the magnolia, although one of the largest and most imposing trees of our Southern States, and withal a tree of rapid growth, attains to no greater height in this latitude than a score of feet. So, too, the caoutchouc tree, large and thrifty specimens of which may be found in the Bahamas, is, with us, little better than a flower-pot specimen and a conservatory product.

Some of the leading British medical journals, whose editors used to be unsparing in their denunciations of "Homœopathy," and of other journals for their publication of the advertisements of homœopathic schools, have quite modified their views, if we may judge by the appearance of their own advertising pages, *vide Lancet* and *Med. Times and Gaz.* Perhaps the action of the Vice-President of the British Homœopathic Medical Society may have had something to do with the change in their views of the question (see item on page 223).

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Historical Notes on Opium.

(Continued from page 145.)

The most thorough and important study of opium, so far as the progress of science permitted at that time, was made by Wedel or Wedelius,[13] the author of the celebrated "Opiologia," or treatise on Opium, from which the following abstract is taken. By heating opium in a retort, Wedel obtained: 1. a residue; 2. a volatile spirit; 3. a blackish oil, to which opium owes its narcotic power. According to the mode of expression then in use among chemists, opium contained therefore a good deal of "sulphur" (the oily substance), "mercurius" (the volatile matter), and besides, "aqueous, earthy, and salty ingredients." Wedel employed opium with preference in the form of tincture, in doses of 10 to 20 drops. In cases of poisoning by opium he administered first an emetic, then essentia castorei, elixir cephalicum, and principally spiritus formicarum[14] internally and externally, afterwards aloe-pills. He also mentions that others had recommended camphor and luke-warm baths. He recounts many instances of accidental poisoning, and unmercifully rebukes the authors of these accidents, "the medicaster parochus" (parish quack) and the "tonsor" (barber). Occasional accidents are also attributed to the physician's writing *opium* instead of *apium*. He also quotes remarkable instances of opium-eaters; among others, that of a French ambassador who took opium by the ounce. The maximum dose he puts at 5 grains, and gives general directions as to its administration. "Above all, the condition of the patient must be taken into consideration; if this is low and the vital powers

[13] Georg Wolfgang Wedel, born 1645, at Golzen, died 1721, at Jena. Celebrated physician and professor at the university. Wrote many medical, pharmaceutical, and chemical works; his *Opiologia* appeared first in 1674.

[14] *Essentia Castorei*:—1 lb. of castoreum is cut up fine, 6 lbs. of alcohol are added, and after allowing to macerate for 8 days the alcohol is distilled off and reserved. The residue is treated with strong wine-vinegar, the mixture filtered, and the vinegar distilled off. The residue left from this distillation is then dissolved in the reserved alcohol.

Elixir cephalicum:—Rad. Pæoniæ, ℥ i.; Galangæ, Valerianæ, Doronici, Fol. Rosmarini, Mari veri, Salviæ, āā ℥ ss.; Flor. Anthos, Lavandulæ, Liliorum convall., Pæoniæ, Stœchados, Betonicæ, Cubebarum, Succini, āā ℥ vi.; Visci corylini, Ligni Aloes, Ladani, āā ℥ iij.; Costi veri, Anacardiorum, āā ℥ i. Comminute the whole and extract them with alcohol.

Spiritus Formicarum (Cnœphelii):—Urticæ Rom. recent, *man.* i.; Betonicæ c. flor., Chamædryos, Salviæ, Rosmarini, Majorani, āā *man.* ss.; Flor. Lavandulæ, Sambuci, Primulæ veris, āā *man.* i.; Flor. Basilici, Stœchados Arab., āā *pug* ij.; Rad. Rhœados. Confect. Anacardiorum, āā ℥ ℔.; Tartaris crudi, ℥ iss. Comminute the whole, add 10 lbs. of alcohol, and after macerating, distil. Then add to the distillate 3 manipuli (handfuls) of living ants and ℥ i. of crude alum, and after 24 hours distil again.

feeble, all other indications are placed into the background. Opium is a life-anchor for him who uses it properly and with circumspection, but in the hands of the unskilled it is a semblance of Charon's boat, and pernicious as a sword in the hands of a madman. Great care is therefore to be exercised, that the *narcotic* may not be converted into a *necrotic*."[15] After a general introduction, the author discusses the diseases of all parts of the human body in which opium may be used. His principal indications are about the same as those which obtain in our days. The work is accompanied by an appendix treating of the *Maslach*[16] of the Turks; by its use before a battle, the Turkish soldiers were said to have been excited to such a reckless and fanatic courage as to make them a terror to their foes. This was said to have contained opium. The great traveller, Thurnhäuser, one of the most adventuresome followers of Paracelsus, pretended to know its mode of preparation.

In opposition to Wedel, his celebrated pupil, Stahl,[17] the founder of the phlogiston theory, discouraged the use of opium, as well as that of cinchona and of alteratives.

But the teachings of the celebrated English physicians Sydenham,[18] Cullen,[19] and Brown,[20] raised opium to the highest importance. The first one of these termed opium and blood-letting the "crura medicinæ" (the legs on which medicine stands), and preferred opium to all other narcotics. According to him the three principal indications for its use are: 1. sharp pain; 2. persistent vomiting or purging; 3. considerable disturbance of vital powers. But he rejects it in cases of "inflammation of the blood, upon which many acute diseases depend." Cullen declared fever to be a weak condition of the nervous system, accompanied by an increased heart's action, and he recommends in such cases opium, wine, cinchona, and tonics. But the chief votary of opium was John Brown, who used to say that Sydenham would certainly be a follower of his theory, if he were still alive. His ardent and fanatic worship of opium originated from the soothing effect which he found it to have upon his gout, and he was frequently in the habit, during his lectures, of taking brandy and opium. His system, usually termed Brownianism, may briefly be explained as follows: Life is a series of actions, which the body is compelled to perform in consequence of its irritability, by external or internal irritations. The disturbances of vital action—that is, diseases, may be consequently divided into sthenic or asthenic conditions, caused by excessive or deficient irritation. The latter condition may have two causes. either the irritability is normal, but irritation is absent, in which case an irritant remedy will furnish relief; or, in consequence of previous over-irritation, the irritability has become diminished; in this case a series of gradually decreasing irritants must be employed until the normal condition is restored. Among the sthenic remedies opium occupies the front rank, besides musk, volatile alkali, camphor, and ether.

Brownianism soon gained a host of adherents; it even was made the official basis of treatment in the Austrian army. A military surgeon praised the cheapness of this method of treatment, as the cure of intermittent fever required only 8 kreuzers' worth of opium and 32 kreuzers' worth of brandy.[21] As a counterpart of this may serve the report of another, who states that of 600 patients treated by this method, 200 died in the course of 21 days, chiefly from alcoholism.

The excitant powers of opium had been observed and pointed out, before Brown, by a German physician, Balth. Ludwig Tralles of Breslau. The Italian physician, Carminati,[22] although differing from Brown in the mode of accounting for the operations of opium, nevertheless also acknowledges its excitant properties.

A new epoch in the history of opium begins with the time when chemistry was endowed with better methods of investigation, the immediate consequence of which was the discovery of the alkaloids. The most important of these is morphia, which was discovered by Sertürner[23] in 1804. From this time to the present the repeated examinations of opium have proved it to be an exceedingly complex substance, and it is likely to prove a fruitful source of research for a long time to come.

Salicylate of Soda in Diabetes Mellitus.

DR. MÜLLER-WARNICK *(Berliner klin. Woch.)* has tried salicylate of soda in two cases of diabetes mellitus, in which different methods of treatment had previously failed. As a result of his experience he says: (1.) Salicylate of soda can completely remove the symptoms of

[15] Lest the *ναρκωτικόν* (narcotic) become a *νεκρωτικόν* (death-producing).

[16] Maslach, or Malach, is a vulgar name for *hemp*, used by the Egyptians and Turks. The intoxicating properties of *Cannabis* seem to have been but little known in Europe at Wedel's time.

[17] Georg Ernst Stahl, born 1659, at Anspach, died 1734, at Berlin. His phlogiston theory, which attempted to explain the various phenomena attending light and combustion, maintained its authority for seventy years, when it was exploded by Lavoisier.

[18] Thomas Sydenham, born 1624, at Winford Eagle, died 1689, at London. He is sometimes called the English Hippocrates.

[19] William Cullen, born 1712, in Lanarkshire, died 1790, at Edinburgh.

[20] John Brown, born 1735, at Bungle, died 1788, at London, a victim to his own teachings, in a state of chronic intoxication.

[21] 100 kreuzers (=1 florin)=47 cents. It is hardly necessary to remark, that the system was, after a while, rejected, and that no obligatory "system" has been in use since.

[22] Bassian Carminati, born 1750, at Lodi, died 1830, at Milan.

[23] Friedrich Wilhelm Adam Sertürner, born 1783, at Neuhaus, died 1841. Apothecary at Eimbeck, afterwards at Hamlin. His researches on morphia and meconic acid, which he had discovered in 1804, were not made fully known until 1817.

diabetes mellitus, yet its action does not appear to be lasting in many cases. (2.) The symptoms of diabetes are made to disappear the quicker by salicylate of soda, the greater the dose in which it is used, and the longer it is borne by the patient. (3.) The first action of medium daily doses, nine to ten grammes, on diabetics, appears gradually to abate, while large doses, fourteen to sixteen grammes in a day, act on patients progressively. (4.) Salicylate of soda can be borne in chronic diabetes in large daily doses for a long time without special disturbance of the general condition. If symptoms of poisoning occur, they rapidly and completely disappear after a short omission of the drug. (5.) Salicylate of soda in chronic diabetes, even on long-continued exhibition, appears to possess only a slight irritating action on the kidney.—*Boston Med. and Surg. Jour.*

The Use of the Hypophosphites in Phthisis.

Dr. Burney Yeo, in a paper read before the British Medical Association at its last annual meeting, sums up the results of his experience with these remedies, having administered them to nearly a thousand consumptives during the last five years.

In advanced phthisis, with both lungs involved, as well as in less advanced cases which run a rapid course and are attended with high fever, they have proved of no service. Their use was attended with more success in young persons than in older ones, and in fair persons of sympathetic temperament than in dark persons of sanguine or bilious temperament. They seem to be of most service in children laboring under all forms of chronic lung disease, and in young adults who tolerate the disease pretty well, and in whom it is limited to the upper portion of one lung. If benefit result, it is almost immediate, as a rule, and is chiefly manifested by improvement in the general health and strength. The physical signs sometimes diminish, more often remain stationary, but may increase in extent simultaneously with marked improvement in the general condition. This improvement is often only temporary, and in consequence, it may be, of some imprudence on the part of the patient, the disease takes a fresh start, and further administration of the remedies is useless. Indeed these cases usually run a very rapidly fatal course, and it is therefore suggested "that patients who are mending under the administration of these remedies should be protected with more than usual care against all those conditions which may possibly lead to a relapse."—*Boston Med. and Surg. Jour.*

A Double Aspirator.

Two glass cylinders, of known and equal capacity, are connected together by brass fittings, in the manner shown in the cut, and the communication between them may be regulated by a stopcock. They are mounted upon a steel axle, supported by cast-iron frames, which are fastened to a solid support. At the upper part of one of the frames a spring catch insures and maintains the perpendicular position of the apparatus. The distant ends of the glass cylinder, which are likewise mounted with brass, carry each, two interior glass tubes reaching nearly to the bottom of each cylinder, and a bent outer tube, to which is attached a rubber tube, leading from each cylinder to the stopcock fastened to the base. This latter stopcock is tapped in such a manner, that, if turned in the position shown in the cut, it causes communication of the cylinder *A* with the vessel or apparatus, from which air is to be exhausted, while at the same time it gives escape to the air

A Double Aspirator.

contained in *B*. As soon as the upper cylinder is empty, by pressure upon the spring catch the axle is rendered movable, the apparatus swung half round, and the stopcock at the base turned 180° (one-half round). In this position *B*, which is now above, becomes the aspirator, while *A*, which is below, discharges its air. The apparatus may therefore be used almost uninterruptedly, and is especially serviceable for physiological laboratories.—Robert Müncke, in *Ber. d. Deutsch. Chem. Ges.*, 10, 540.

The Eucalyptus Globulus.

Professor Flückiger has recently visited the shores of France and Italy bordering the Mediterranean, known as the "Riviera," and in an exceedingly interesting letter printed in the *Neues Repor-*

torium für Pharmacie he writes thus, regarding the Eucalyptus globulus which is being introduced into that region :

One tree of the future, at least—one of hope for the poorly wooded districts of Italy—may to a certain extent be recognized in the *Eucalyptus globulus*, Labill. This tree is sufficiently heterogeneous to give, in the event of its extensive cultivation, an entirely altered appearance to the landscape. For this, however, the Riviera has yet a long time to wait ; for of systematic forest-cultivation of the eucalyptus nothing is yet known, and scarcely anything of the cultivation of forestry itself. But there is sufficient opportunity of seeing fine specimens of this tree everywhere, from Genoa to Cannes. Many entire lengths of road are planted with it, and in very many gardens these Australian citizens already tower boldly above their surroundings, and warrant the expectation that in this country they will not remain far below the height of 100 metres that they attain in Tasmania. The tree was discovered in the south of that island on the 6th of May, 1792, in the neighborhood of the Entrecasteaux Channel, by Jacques Jules Labillardière, when botanist to an expedition, consisting of the "Recherche" and the "Espérance," fitted out by order of the French National Assembly to search for La Pérouse, who had disappeared since 1788. But a less learned collector might well have been attracted by this strikingly gigantic tree. In the first place, the entirely different appearance of the full-grown tree is remarkable. In the young tree the quadrangular branches are furnished with broad opposite amplexicaul leaves ; but instead of these, while still quite in its early years, on the new shoots, and afterwards on all the subsequent ones, there are formed small, long-stalked, pointed leaves, which often take a sickle-like form. The latter form alone is shown by Labillardière in his great work, together with the fruit, which he compared to the fashionable button of the day, and on that account he named the new species *Eucalyptus globulus*. The broad ovate leaves and the young shoots are covered with wax, imparting to the quite young trees a dull gray green color, which is not so much the case with the small later leaves. These hang loosely downwards from the long rather horizontal branches, and are swayed by the wind like aspen leaves, notwithstanding their thick coriaceous texture. It is known that the chemical properties of a leaf hanging perpendicularly differ from those of a leaf occurring in the ordinary nearly horizontal direction. Robert Brown noticed, for instance, that in respect to the stomata in the eucalyptus leaves an important difference exists. The broad sessile leaves have stomata only on the under side ; but the pendent stalked leaves are provided with them on both sides. The action of the sun's rays upon the two kinds of leaf must likewise be very different. Most probably even the oils occurring in the two leaf-forms do not correspond.

The trunk of the *Eucalyptus globulus* (and other species) throws off very long strips of brown bark in a similar manner as the plane scales off its shorter but much wider pieces of bark. The entire family of *Myrtaceæ* is distinguished by its richness in essential oils, and the genus *Eucalyptus*, which belongs to it, is not an exception. When a leaf is held against the light numberless oil glands can be seen ; even the bark torn off by the wind is still aromatic ; that collected in Australia far more so than that of this country. This essential oil has procured for the tree a considerable reputation during the short period of its naturalization in Italy, South France, Algeria, Spain, and Portugal. In pharmaceutical literature it has been a standing subject since about 1866, and it has become not less important in the horticulture of the South.

With respect to the essential oil no definite conclusion has yet been arrived at. It appears probable that it is essentially a mixture of cymol, $C_{10}H_{14}$, and terebene, $C_{10}H_{16}$, with an oxygenated oil, $C_{10}H_{14}O$; that is to say, these constituents were recognized in commercial eucalyptus oil, which was probably distilled from *E. amygdalina*, Labill., in Australia ; but without further investigation this could be scarcely identified. Ferdinand Müller, the honored botanist of the colony of Victoria, enumerates about sixty species of *Eucalyptus* in his "Fragmenta Phytographiæ Australiæ," and a glance at the names alone would awaken the expectation of considerable chemical variations. Amongst them are found such designations as *citriodora*, *elephora*, *eudesmoides*, *odorata*, *oleosa*, *piperita*. This fact allows the conclusion that there are important differences in the smell of the aromatic leaves, and that nearly as the species may stand in botanical relation to each other, they still produce chemically different oils. Moreover, judging by the odor, the *E. globulus* contains in the large and numerous oil cells of its fruit a different oil from that in its leaves and bark. In the gardens of the Palazzo Orengo, besides some fine specimens of *E. globulus*, there are some very young trees of *E. eugenioides*, Sieb. (referred by Müller to *E. hæmostoma*, Smith), the leaves of which upon being rubbed give off a very remarkable smell of butyric acid, exactly resembling St. John's bread. The work upon the only eucalyptus oil at present examined is not yet finished, and of the oils of the other species we have no knowledge, so that these trees still present an immense field for chemical research.

Whether the final judgment of medicine upon the eucalyptus leaf be favorable or unfavorable, gardeners and foresters are probably perfectly right in advocating the propagation of this tree in the South. Febrifuge or not, its greater diffusion will naturally make the district healthier by intercepting the scorching rays and contributing to the more active distribution of atmospheric moisture. Such expectations will be doubtless quickly fulfilled where regular woods of eucalyptus are planted, as in Algeria, the Campagna di Roma, and the Delta of the Var, near Nice. For these

inestimable services eucalyptus trees are pre-eminently suited by their remarkably rapid growth. Throughout this district the *E. globulus* alone has been planted. Next to *E. amygdalina* this species attains the greatest height, and it probably owes its more frequent cultivation in Europe to its having been the first introduced. But it is a question whether other species also, both the shrubby and tree forms, would not be equally well adapted to the South European climate. In the gardens of South France, the *E. globulus* occurred as a curiosity as early as 1822, and in Algeria in 1854; but real cultural experiments were not undertaken till 1863. At present, a tree fifteen years old, about 28 metres high, with numerous enormous branches, stands in the public gardens at Antibes, and at a man's height is 2.25 metres in circumference. Another in the garden of the Palazzo di Orengo, near Mentone, only seven years old, has a circumference of 1.30 metre, and is 19 metres high. This is a development which is not attained by any other indigenous or introduced tree in Southern Europe. The olive, chestnut, walnut, and ceratonia grow much more slowly, and do not present so tall, straight, and columnar a trunk. Labillardière called attention to the extraordinary hardness of the wood. It is evident how valuable such a tree would be in this woodless land; but in the Riviera the reign of indolence is not yet broken by the eucalyptus. In Algeria and the Roman Campagna, on the other hand, very promising and extensive plantations appear to be in full development. Separately and in small groups the *E. globulus* is sufficiently frequent in the Riviera de Ponente to compel closer consideration. As to whether it is to be described as a beautiful tree opinions are much divided, and on account of its peculiarity it is difficult to form a definite judgment in the matter, because at different stages of its growth it changes far more in respect to its branching and foliage than any European tree. When it bears the small sickle-formed leaves, their great mobility introduces a very pleasant liveliness among the surrounding stiff-leaved olive, ceratonia, and lemon trees. However, the foliage of the eucalyptus cannot on the whole be called particularly rich; in this respect, and also as to the pendent leaves, it might be compared to the birch. But this tree is much more branched, and fine specimens therefore make a far more striking impression.

What the effect as to appearance in the Riviera will be at some future time of a tall straight-stemmed wood of *E. globulus*, the foliage of which would probably not amount to much before the trees attained a height of 30 metres, must remain undecided. However, it can scarcely be expected that trees 100 metres high, a height to which this species attains in Tasmania, will afford a really beautiful prospect. The species which grows to the greatest height, *E. amygdalina*, the stems of which, 145 metres high, exceed that of the tower of Strasbourg Cathedral (142 metres), or the present height of the Cheops Pyramid (137 metres), appears not to be yet cultivated in Europe; but probably some of the smaller, partially bushy species might become rivals to *E. globulus* as to appearance. Obviously, the climate of the Riviera, and the still more favorably situated districts of central and southern Italy, not too far removed from the coast, suits the *E. globulus* as well as that of Algeria, Andalusia or Portugal. It prospers also near the north Italian lakes; on the other hand, its success in Lombardy, Istria, and in South France westward of Cannes is as yet doubtful; neither has Pisa proved favorable. It sounds therefore surprising that a specimen should have survived the winters of 1873 and 1874, in the Marly Garden, near Sans Souci. Possibly species might be found that would not suffer from the mild winter of southern England.

The juices of several eucalyptus trees correspond with the kino from *Pterocarpus Marsupium*, Roxb., especially those of *E. citriodora*, Hook., *E. corymbosa*, Sm., *E. rostrata*, Schlecht., and *E. resinifera*, Sm. The last named is represented by some young trees in the grounds of the Palazzo Orengo. It can only be hoped, therefore, that in the near future the vigorous group of the eucalypti may produce a picturesque alteration in the olive groves of the Riviera.—From the *Pharm. Journ.*

THE colored plate prefacing this number of NEW REMEDIES is copied after an illustration in Bentley and Trimen's "Medicinal Plants." Neither this nor the original, however, are in all respects exact. The color of the leaf of the young plant is by no means so dark, and the leaves peculiar to the early growth of the tree have little or no petiole in the specimens we have seen, but appear to arise directly from the stem in such a manner that their bases overlap each other. Furthermore, they are placed on the same level on opposite sides of the square stem, and not on opposite angles at a different level, as shown in the cut. The numbers refer to the following parts of the plant: 1, end of a flowering branch; 2, vertical section of a flower; 3, section of the raised disc; 4, stamens; 5, transverse section of an ovary; 6, fruit; 7, transverse, and 8, vertical section of the same; 9, a fertile seed; 10, embryo; 11, leaf of a young tree. (3, 4, and 7 to 10 enlarged.)

Administration of Nitrous Oxide Gas.

IN a recent number of an English journal an account is given of the death of a Dr. Morley Harrison, while undergoing the administration of nitrous oxide gas, and in connection with the statement that he had a fatty heart, attention is directed to the remarks of Dr. Johnson in his Lumleian Lecture before the Royal College of Physicians. "Considering the great tension of the left cavities of the heart at the commencement, and the engorgement of the right side towards the end of the operation, Dr. Johnson thought the administration of nitrous oxide would be attended with some risk, in the event of the heart being diseased."

On the 13th of February last, a paper was read before the Pennsylvania Association of Dental Surgeons by Geo. T. Barker,* in which the author says that, notwithstanding nitrous oxide has proved to be in many respects efficient when judiciously administered, "at the same time it must be admitted by its most extravagant eulogists that it has been administered indiscriminately by those unfamiliar with its properties and appropriate uses; while the laudation which it has received by daily advertisements in the public press, which have been continued without contradiction, has led the general and even the professional public to regard it as entirely without danger, and incapable of producing harmful results." He claims that in almost all large cities in the United States the extraction of teeth has been taken out of the hands of the "regular" dentists, whose principal efforts are directed towards the preservation of natural organs, and is now monopolized by a class of practitioners, who, however well they may be instructed, cannot continue to destroy organs without attempt at restoration, and at the same time be competent to decide that they cannot be preserved by judicious treatment. In this view of the case, it is only a loss of an organ that is to be regretted, but the administration of the gas so promiscuously as it has become, has more serious features for consideration.

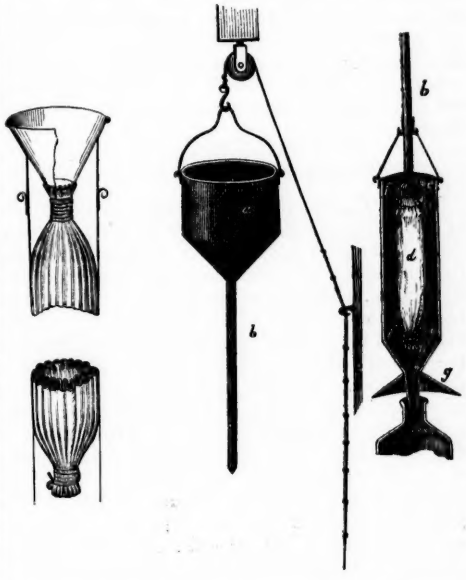
Dr. Barker quotes symptoms attending the administration of the gas, as described by Dr. F. R. Thomas in his treatise on nitrous oxide, which resemble strongly those accompanying an attack of congestive apoplexy. He says that it is quite common for patients who have taken nitrous oxide to say: "I have never felt the same since I took gas. I am much more nervous, and don't sleep as well; have more headache, and would not, under any circumstances, take it again."

Dr. Geo. J. Ziegler, on page 49 of his work on "Researches on Nitrous Oxide," says: "While, however, the physiological effects of protoxide of nitrogen are usually of a highly pleasurable and sanative character, it cannot, nevertheless, be indiscriminately employed with safety." "It may be asserted," Dr. Barker goes on to remark, "that if bad results follow the use of nitrous oxide, it ought to be easy to prove the same by undoubted testimony, but as a general thing patients actually feel better after its inhalation, and so express themselves by laudatory remarks opposite their names in the book in the operator's office." This, he thinks, indicates continued hyperæmia of nerve centres, which, with the pleasure experienced from the thought that a painless operation has been performed, induces these emotional expressions, and is evidence of an abnormal condition. Physicians have stated that they have had cases of permanent headache, vertigo, syncope, melancholia, insomnia, convulsions, hysteria, and irregular heart-action, which *patients* attribute to inhalation of nitrous oxide.

* *Dental Cosmos* for May, p. 248.

Filtering Apparatus.

The filtration of viscid, syrupy or muddy liquids is connected with many difficulties, the principal one being the deposition of the sediment upon the whole filtering surface, whereby the passage of the liquid is either retarded or entirely prevented. We sometimes overcome the difficulty by introducing our liquid into tall, narrow bottles, where we allow the sediment to deposit, draw off the supernatant almost clear liquid, and filter this by itself. Now had this bottle or jar consisted of linen or muslin, instead of glass, the liquid column, above the sediment, would have oozed through the fabric and we would have at once obtained a clear filtrate. This is precisely the principle of Taylor's or the so-called sugar-house



filter, which consists of a narrow bag of muslin, open above and below, one end of which is gathered in regular plaits, and tied, while the other end is tied around the spout of a funnel, the lower orifice of which is somewhat trumpet-shaped, to prevent the filter-bag from slipping. The spout of the funnel may be 1¼ inch wide, and 4 inches long; and the filter-bag may have a length of 1 to 3 feet. Another open bag of muslin, but much narrower than the first, is now slipped over the latter, for which purpose this must be pressed or folded together, and finally the two bags are entered into a cylindrical tube of tinned iron of at least their own length. The filtering apparatus having been suspended properly, it is filled with the liquid, which soon begins to run through with remarkable rapidity and brilliancy. This is owing to the fact that the outer sack or bag prevents the bulging of the inner, and therefore insures a greater height of the liquid, while the sediment

sinks down into the lower end, and leaves the pores of the fabric unobstructed; the tin tube, moreover, prevents radiation and evaporation, especially in the case of warm liquids.

This apparatus may be combined with pressure by lengthening the funnel-spout, so as to considerably heighten the column of liquid to be filtered. The annexed illustration explains this. The funnel *a* is provided with a tube *b*, being about 3 or 4 feet long, the lower end of which carries a shoulder for securing the upper end of the bag, which may have a length of 1–2 feet. The latter is surrounded by a tin tube *f e*, to prevent radiation and loss by squirting, and is provided with a hood *g*, to prevent the entrance into the flask of any spilled or overrunning liquid.

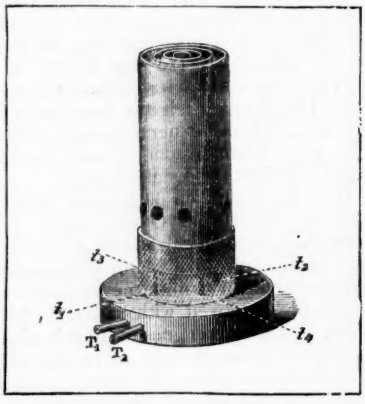
The first form of filter is an imitation of that employed in sugar-houses for filtering syrup through charcoal. In such establishments, however, a large number of filter-bags are fastened into one frame, and are filled together from one trough. This may be imitated without great trouble, when a large bulk of liquid is to be filtered.

Choleate of Soda as a Medicine.

Dr. W. C. Van Biber reports five cases (*Trans. of the Med. and Chir. Faculty of Md.*) to show that choleate of soda may act as a substitute for the bile when this secretion does not enter the duodenum. This he considers to be most desirable in cases of chronic jaundice. In these cases the use of the remedy improved the digestion, and the author's theory is that it acted as a substitute for the bile. In none of the cases did an attack of colic occur during its administration. He recommends choleate of soda in certain cases of dyspepsia, dependent on functional derangement of the liver; and in chronic jaundice, when it is evident that a sufficient amount of bile is not poured into the duodenum. In the former he considers that it will be quite as serviceable as pepsine is in other forms of indigestion, on the principle of supplying a substitute for a physiological secretion. He refers also to the use of the choleate, as proposed by Dr. Dabney, as a preventive of the formation of gall-stones.

On the Preparation and Estimation of Alkaloids and other Crystallizable Principles.

The apparatus designed by P. Cazeneuve and O. Caillol, and described and figured on page 108 of our April number, is proposed by the inventors for the exhaustion of substances, containing proximate principles, soluble in highly volatile liquids. The idea of the apparatus is not new, only the form and arrangement present a few novelties. But we can testify, from our own experience, that the results obtained with such an apparatus are much more satisfactory and economical than would otherwise be the case. The above-mentioned authors recommend their apparatus, among other uses, for the isolation or estimation of quinia in bark, either on the manufacturing scale or for purposes of assay. In the former case, of course, the operator will have to construct special large apparatus on the same or a similar plan; but in the latter case it may easily be put together from the usual laboratory utensils. Supposing a lot of cinchona bark is to be assayed: a number of pieces are selected from various portions of the bale, powdered, and 250 grammes of the powder are mixed with 250 gm. of recently slaked lime. The mixture is moistened with water until it forms a paste, which is dried upon plates of glass in an air-chamber at 100° C. It loses its water very rapidly. The powder is now transferred to the displacer (*B* in the cut on p. 108), and it is exhausted with ether of 0.735 spec. gr., taking care to avoid loss of ether. The residuary ethereal solution in the flask *A*, which is slightly yellow from dissolved resin, is shaken with very dilute sulphuric acid, the ether is distilled off, and ammonia is added to the warm solution, until the liquid has *nearly* reached the point of neutrality. It should still have a *slight* acid reaction, which must be ascertained by litmus. On cooling, the sulphate of quinia crystallizes out. This is collected upon a tared filter, washed, dried and weighed. The crystals thus obtained are very handsome, white, and salable without further purification.—*Répert. de Pharm.*, 1877, 225.



The New Godefroy Burner.

Mr. Godefroy's new burner, represented in the adjoining illustration, is composed of four concentric sheets of iron cylinders. The first and third are pierced with lateral holes at the base. The intervals between the cylinders communicate, some with the pipes t_1 and t_2 joining the exterior gas-tube, T_1, and others with the tubes t_3, t_4, which unite with the tube T_2. Wire gauze placed at the base of the apparatus prevents the flame from flickering, while it regulates the introduction of air. Only two internal cylinders may be used, if desired, in which case a high and regular white flame is produced.—*Scientific American.*

Sclerotic Acid, the Active Principle of Ergot.

THE pharmaceutical journals of last year * contained a condensed summary of the important investigations of Prof. Dragendorff, of Dorpat, and Mr. Podwissotzky, on the constituents of ergot, in which they announced the discovery of a proximate principle of an acid character and exerting in a high degree the specific effects of the drug. Since then the authors have published their results in detail, † and we believe to render a service to our readers by describing their method of preparing this principle, to which they gave the name "sclerotic acid," and which appears to have survived the period of doubt and novelty.

Referring to the accounts previously given, and leaving aside the recital of various abortive attempts, on the part of the authors, to obtain the substance in a perfectly pure state, we shall at once give the process finally adopted, which yields a nearly pure product.

Very finely powdered ergot is exhausted with distilled water, the solution concentrated in vacuo, and the residuary liquid mixed with an equal volume of 95% alcohol. This causes the precipitation of a peculiar slimy substance, scleromucin, together with a portion of the salts and the greater part of the suspended fatty matter. The mixture having been allowed to stand on ice for 24 or 48 hours, it is filtered and the filtrate mixed with a further quantity of 95% alcohol, sufficient to precipitate all the sclerotic acid in combination with the bases (chiefly as calcium sclerotate). The separation of the precipitate is promoted as before by placing the mixture on ice for some days. This causes the deposited mass, which has a brownish color, to adhere firmly to the walls of the vessel, so as to permit the supernatant liquid to be easily poured off. The precipitate is kneaded with alcohol of 80%, and immediately thereafter dissolved in a sufficient quantity of 40% alcohol, when the remainder of the scleromucin and another larger portion of the foreign salts are left behind. The filtered liquid is now mixed with absolute alcohol, whereby sclerotic acid is precipitated in conjunction with certain bases and other substances. This impure product, when carefully dried over sulphuric acid, was found on analysis to contain 8.5% of potassium, about 0.36% calcium, 4.3% sodium, 2.74% phosphoric and 3.4% silicic acid, or altogether, 19.3% of ash.

The greater part of these admixtures may be removed, and the sclerotic acid obtained free, by adding, before the final precipitation with absolute alcohol, a considerable quantity of hydrochloric acid (for every 100 c.c. of solution, 5–6 gm. of the acid, spec. gr. 1.100), allowing to stand at ordinary temperature for a few hours, and then proceeding to precipitate. In this manner the amount of ash may be brought down to 3%, and by repeated solution, addition of acid, and precipitation, it may further be reduced to less than 2% or 3%. A more complete purification is difficult and hazardous, because every addition of hydrochloric acid causes the decomposition of a small quantity of the sclerotic acid, while at the same time a portion of the latter is lost by remaining in solution.

The resulting product, although not chemically pure, is nevertheless, so to say, physiologically pure, as it always produces constant and identical results, no matter from what sample of (good) ergot it was obtained.

Sclerotic acid is entirely odorless and tasteless. In aqueous solution it has a faint acid reaction, and decomposes calcium carbonate only slowly, even on warming. Boiling nitric acid of 1.200 spec. gr. produces a little picric and oxalic acid, and a new substance, which assumes a bright yellow color on adding ammonia or other alkalies. More concentrated nitric acid converts it into picric, oxalic, mucic, tartaric, and aposorbic acids. It is not a glucoside; nor does it lose its effectiveness on the addition of dilute sulphuric or hydrochloric acids: on the contrary, the latter appears to intensify its effects. Boiling alcohol, in presence of sulphuric acid, extracts it from ergot in small quantities, cold alcohol not at all. It is therefore possible to abstract by means of cold alcohol and sulphuric acid a portion of the coloring matter from ergot, before extracting the sclerotic acid with water. But, unfortunately, the aqueous solutions (which carry with them a portion of the alcohol and sulphuric acid) spurt or bump so energetically during the distillation, that this modification of the process becomes unadvisable.

It might be supposed that sclerotic acid is not an acid, but an alkaloid, as it yields with phosphomolybdic acid a yellow, and with tannin an almost colorless precipitate. But other alkaloidal precipitants are without action upon it, and only lead acetate with ammonia produces a strong flocculent precipitate.

When properly purified, sclerotic acid is hygroscopic but not deliquescent, which circumstance distinguishes it advantageously from the commercial purified extracts of ergot. It is found in these in greater or lesser quantity, according as a weaker or a stronger alcohol was employed in exhausting the ergot. A few commercial extracts were found to be very deficient. In Bonjean's and Wernich's preparations and in Wiggers' Osmazom it exists in considerable quantity, while scleromucin is almost entirely absent, as is the case in all alcoholic extracts of ergot. In Zweifel's preparation the acid occurs in a tolerably pure state, in a less pure condition in Buchheim's. In alcoholic tinctures of ergot, and in Wiggers' ergotin it is only present in traces or is entirely absent.

Good ergot contains about 4 to 4.5% of the acid, although samples are met with which contain scarcely 1.5 to 2 per cent.*

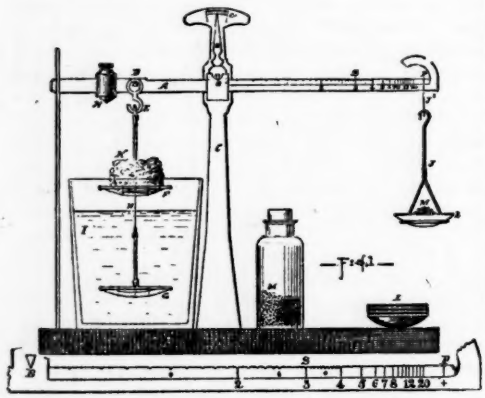
* *Pharm. J. and Trans.*, June 17, 1876. Reprinted in NEW REM., v. 208.

† *Arch. f. experim. Pathol. und Pharmacol.*, condensed in *Pharm. Zeit. f. Russl.*, 1877, No. 5, etc.

* Sclerotic acid (acidum scleroticum or sclerotinicum) is quoted in our Prices-Current at $20.00 per ounce. It is administered hypodermically in doses of 0.04–0.05 gm. ($\frac{1}{16}$ to $\frac{1}{12}$ grain).

Phosphorescence of Quinia-Salts.

On heating sulphate of quinia upon glazed paper, lying upon a silver plate, carefully to 50°–62° C. (122°–144° F.), and then stirring it in the dark with a glass rod, it emits a very handsome phosphorescence, which lasts for several minutes, until it becomes cold. Valerianate of quinia exhibits the same phenomenon even at ordinary temperatures. If the crystals of the latter salt be rubbed in a mortar, or be pounded with pressure, each blow causes a phosphorescent light, which seems, however, to be more characteristic of the salt prepared with the natural acid, obtained from valerian, than of the artificial prepared from fusel oil. Prof. X. Landerer, who makes the above communications, adds, that he has met with sophisticated valerianate of quinia in Greece, consisting of the hydrochlorate (muriate) impregnated with oil of valerian, or valerianic acid. The acetate, flavored in the same manner, has a great resemblance to the true valerianate.—*Arch. d. Pharm.*, April, 1877, 322.



New Specific Gravity Balance.

Mr. R. Parish, of Easthampton, Mass., is the inventor of an instrument which may be used in chemical laboratories or mineralogical field-work, and by the aid of which the specific gravities of common minerals and other solid substances heavier than water can be quickly and conveniently determined without resort to mathematical calculation, and without regard to exact weight. The instrument is adjusted to accurate balance with the counterpoise *J* and its loop *J*¹ removed from the beam *A*, but with the double-basket *F*, *G*, in position, and the vessel *I* supplied with water, as indicated. In determining the specific gravities the mineral *K*, or other solid to be tested, is placed in the basket *F*, and the pan-holder or counterpoise *J* is adjusted to the position *P*, established at a convenient distance from the fulcrum *B*, and marking the extreme working length of the lever-arm. One or more of the pans *L* are placed upon the receiver *J* to counterbalance the weight of the mineral, and a sufficient quantity of granulated copper or sand is placed in the pan to cause the beam *A* to stand in equilibrium. The mineral *K* is then removed from the upper (*F*) to the lower basket (*G*). The counterpoise and its load is then moved towards the fulcrum, to a position (*S*, for example) where it just counterbalances the submerged mineral. This position corresponds with the s. g. of the mineral, and the amount, being indicated on the graduated scale, can be read off directly.—*Scientific American.*

A New and Simple Method for the Quantitative Estimation of Urea.

George B. Fowler, M.D., of New York, proposes, in the *New York Medical Journal* of June, a new and simple method of estimating urea, which may be described, in brief, as follows: Remembering the success which has attended the use of Dr. Robert's method of determining the amount of sugar in solution by the difference in specific gravity, before and after fermentation, it occurred to Dr. Fowler that the difference in specific gravity, before and after decomposition by the hypochlorites or hypobromites, should bear a definite relation to the quantity of urea originally present in the solution.

"Now, between stable and fermenting saccharine solutions there is obviously a wide margin as regards specific gravity; for, by the action of yeast, not only is there a loss of matter (CO_2), but a generation of liquid lighter than water (alcohol). It was therefore a question at the outset whether we would have sufficient margin, with urine and the proposed reagents, upon which to base a calculation, and whether small differences in the amount of urea would be indicated with sufficient accuracy. Theoretically it seemed that there should be a loss in gravity, after the mutual decomposition between urea and a hypochlorite or a hypobromite, ... where, besides the loss of nitrogen, there is a production of water. According to Dr. Davy the carbonic acid does not escape from the solution, but is absorbed by the excess of caustic alkali of the reagent. My own observations support this statement, and therefore this product does not add to our margin.

"Again, urea consists of $\frac{1}{3}\frac{1}{5}$ by weight of nitrogen, therefore almost one-half of the urea in the solution will disappear; and this loss, together with the water introduced, should cause a perceptible difference in gravity.

"The reagent I have found to be the most convenient for this analysis is sodium hypochlorite (the *liquor sodæ chlorinatæ* of the pharmacopœias), on account of its cleanliness, and because it is easily procured. But unfortunately the preparations of this article vary exceedingly as regards composition and specific gravity, some giving an insoluble precipitate of *calcium carbonate* with urine, and having a gravity of from 1.050 to 1.100. Of course we must not have a precipitate, and such a density would require a hydrometer of very long stem and large bulb, and would necessitate the

use of a larger volume of fluid than would be desirable.

"In the standard solution prepared by Dr. E. R. Squibb, of Brooklyn, however, these objections are overcome, as there is not the slightest opacity following its addition to urine; and he informs me that the density, when it is bottled, is about 1.048. By exposure to air and light it is reduced.

"The most important step is to procure a hydrometer. The requirements are a stem which will indicate the gravity of the hypochlorite, and also that of the urine—that is, an index ranging from 1.000 to 1.050, and that each graduation should indicate *one degree* and be about two millimetres (one-twelfth of an inch) apart, in order to allow of accuracy in the reading. To be able to work with small quantities of fluids the instrument should be divided into two of equal size, one reading from 1.000 to 1.025, the other from 1.025 to 1.050."

The experiments of Dr. Fowler with solutions of urea of known strength showed that after decomposition every degree of density lost indicated 7.791 milligrammes of urea, per cubic centimetre of the solution (3.55 grains per ounce). Or every degree lost corresponds to 77 per cent.

The method is as follows: "Procure two glass cylinder jars, one about nine inches in height by one and a half in diameter, the other about seven inches by one inch. Into the smaller pour a quantity of urine and ascertain its *s. g.* Take about fifteen cubic centimetres (one half-ounce) of it and pour it into the large jar. Now wash out the smaller jar thoroughly and in it take the *s. g.* of the hypochlorite solution. Then add to the urine in the large cylinder, exactly seven times as much hypochlorite as there was urine taken.

"When the two fluids mingle there will be brisk effervescence, and care must be taken that none of the mixture be lost. After several minutes the disengagement of gas is less rapid; and now, by vigorously shaking the jar at short intervals, I have found the process to be hastened, so that at the expiration of an hour the decomposition is complete. It then only remains to take the gravity of the quiescent solution; deduct from what it was before decomposition, and estimate the amount of urea on the basis already given; after this manner:

"Suppose the *s. g.* of the urine to be 1.020, and that of the hypochlorite 1.045. But it is impracticable to take the *s. g.* of the mixture of these two on account of their immediate reaction; we therefore resort to the law of proportion, and estimate it as follows:

1 part at 1.020	= 1.020
7 parts at 1.045	= 7.315
8	)8.335

1.041⅞ *s. g.* of mixture.

"From the gravity of the eight parts we subtract that which is obtained after decomposition, which, we will say, is 1.038⅛. There is then a loss of 3°. Every degree of loss equals 7.791 milligrammes per cubic centimetre of urine used. Therefore the urine contained 23.373 milligrammes of urea per cubic centimetre, or 2.3 per cent." Care of course is necessary that the temperatures of the fluids agree. The presence of neither albumen nor sugar interferes with the accuracy of this method.

Phenomena Occurring during the Use of Goa Powder.

In the *British Med. Jour.* for April 28th, A. D. Keith, in describing the use of goa powder in a case of psoriasis, says: "During the course of the latter treatment several curious phenomena presented themselves. After he [the patient] had been rubbed for a week his face, and more especially his upper eye-lids, swelled very considerably, and the skin assumed the appearance of having been exposed to a tropical sun. His urine was the color of weak senna tea, and his finger and toe nails were dyed a deep purple. After the psoriasis had disappeared, a rash exactly resembling scarlatina appeared on the back of both arms and shoulders, as low as the angles of the scapulæ. The irritation from this eruption was so intense as to necessitate almost constant scratching; but a few applications of atropia ointment effectually removed this. To descend to a domestic matter, I wish to ask what will remove the stains of the goa powder from linen? The only objection to the goa powder ointment is its color and stain; and should chrysophanic acid ointment be equally efficacious, it will certainly be a great advantage."

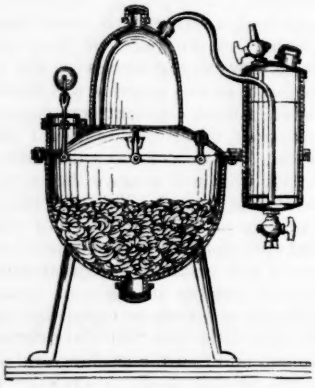
In the next number of the same journal Dr. Balmano Squire observes, in reply, that goa powder ointment is little else than dirty chrysophanic acid ointment, and that the swelling and dyeing of the face has already been described. He also adds that chrysophanic acid, in its pure state, has the same staining effect on the linen that it has in the impure condition, and he, moreover, declares his ignorance of a method for removing such stains. As the skin is the only garment which cannot be changed, the alternative of obtaining a sound skin at the expense of a spoiled shirt is not a bad bargain—so he thinks. Communications from other writers of experience follow, and confirm both the value of the remedy and the permanence of the stain caused by it.

Volumetric Estimation of Sulphuric Acid.

Mr. F. Jean proposes to estimate sulphuric acid in sulphates by adding to the solution, which must not be alkaline, baryta-water in slight excess, saturating with carbonic acid, boiling and filtering. The solution then contains in form of carbonate the whole of the previous sulphate-salt, and it is only necessary to titrate the solution with standard acid, in order to find the equivalent quantity of sulphuric acid.—*Comptes Rend.*

Protection of Iron against Rust.

PROF. BARFF has communicated to the Royal Society of London a method for effectually protecting iron against rust. This is accomplished by converting the external surface of the object into ferroso-ferric (or magnetic) oxide. The latter is much harder than iron, and adheres to it even better than the single molecules of iron among themselves, whereby not only the chemical but even the mechanical resistance of the iron is increased. For this purpose the objects are heated in suitable chambers during five hours at 260° C., which causes them to bear any change of temperature without rusting. If, however, the objects are heated for six or seven hours up to 650° C., the surface becomes so hard, that it cannot be scratched by a file. The original surface is thereby only changed in color; a smooth surface remains smooth, a rough surface rough. This discovery of Barff is expected to have a great future.—*Pharm. Zeit.*, No. 29.

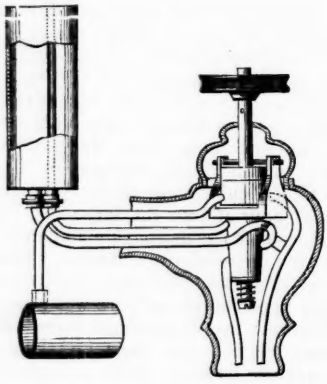


A New Carbonic Acid Generator.

MR. FREDERICK W. WIESEBROCK, of Brooklyn, has invented an improved automatic carbonic acid generator, of which the above illustration shows a transverse section. The nature of the invention consists in regulating the flow of acid, at will, into the generator by means of a valve which is opened or closed according to the pressure of gas. Acid is poured into the upper chamber through the bung in its top, care bring taken not to overflow the tube connecting this with the chamber below. The lower chamber is charged with marble chips and water through an opening not shown in the cut. The acid escapes from the upper into the lower chamber by means of an opening which may be closed by a conical plug, as shown in the illustration. This plug is supported by a lever, the movable end of which communicates by means of a vertical rod with a counterpoise outside of the apparatus. This vertical bar passes through an elastic diaphragm, which, when the pressure of gas inside the generator arrives at a certain point, rises, and, acting upon the lever, forces the plug into the opening from the acid chamber, and thus arrests the flow until the pressure falls. As the gas is generated it escapes through the tube above referred to into the upper part of the acid chamber, and then through the curved pipe into the washer, shown on the right side of the illustration. A stopcock at the top of the washer controls the escape of gas from the latter. The patent is numbered 190,396, and dated May 1, 1876.

Apparatus for the Artificial Production of Mineral Water.

MR. CHARLES BEYSCHLAG, of Indianapolis, Ind., is the inventor of an apparatus whereby mineral waters may be mixed with carbonic-acid water at the moment of draft. The upright tank shown on the left contains the mineral water and communicates with the faucets by means of two tubes; one to permit the escape of air from the faucet, as the latter is being filled through the other



with fluid. Below the tank is the pipe coming from the carbonic-acid water fountain, and the small pipe communicating with this, together with the two pipes coming from the mineral-water tank, enter the ornamental shell covering the faucet, in the manner shown. The faucet is composed of two portions, or, rather, two faucets are placed one above the other in such manner that both are opened by the same movement. The carbonic-acid water tap is of a usual compression variety, regulated by a screw; a horizontal bar passing through the screw and moving the forked head of the lower faucet.

The mineral water faucet is constructed so that when closed, a cavity in its interior fills with fluid from the tank, and contains the amount required for one dose. As the two faucets are opened, the communication with the tank is cut off and the air passes into the chamber by the second pipe as the fluid escapes. Each faucet, it will be seen, has a separate discharge-pipe from which their contents are discharged simultaneously, and the mixing of the carbonated with the medicated fluids in

the glass in this manner is intended to do away with a separate fountain and draft apparatus for the mineral water. [Patent No. 190,464, dated May 8, 1877.]

Cane and Beet Sugars.

In spite of the statement of chemists that there is any distinguishable difference between cane and beet sugars, it is said that sugar-refiners are able to tell them apart as a result of continued experience, which gives them a sort of intuitive power. Confectioners and preserve-makers are said to acquire the same ability to discriminate, and positively refuse to have beet-sugar at any price.

Beet-sugar, it is stated, is never sent into market in a pure state, being mixed, previous to recrystallization, with cane sugar, generally in the proportion of two parts of the former to one of the latter. One practical test is said to be the grayish black appearance imparted to whiskey-toddy by the beet-sugar.

Determination of Urea in the Blood.

P. Picard has recommended a method for determining the quantity of urea in the blood, which offers two advantages: 1. It requires but a small quantity of blood, and therefore permits the repetition of the experiment upon different portions of the blood of the same animal; 2. The process is simple and sufficiently accurate. It is as follows: 50 gm. of blood are boiled, under constant stirring, with 50 gm. of crystallized uneffloresced sodium sulphate. The original weight is then restored by the addition of water. The whole is transferred to a filter, or it may previously be expressed and then filtered. Of the clear filtrate 50 gm. are weighed, introduced through a tubulated and fauceted funnel into a flask provided with an exit-tube. The funnel having been rinsed with water, which is likewise allowed to run into the flask, 20 cc. of pure hydrochloric acid are added, and heat is applied until the air has been expelled. At this moment the exit-tube is connected with a series of wash-bottles containing solution of baryta. The first part serves to retain the carbonic acid produced by the decomposition of urea, the last prevent the access of atmospheric carbonic acid. Everything being ready, about 20 cc. of commercial "nitrous acid" (nitric with nitrous acid) is allowed to flow, from the funnel into the flask, which is rapidly heated to 100° C., which temperature is kept up for 8–10 minutes. The urea is thereby completely destroyed, and the escaping carbonic acid is arrested by the baryta. Finally the resulting barium carbonate is decomposed by hydrochloric acid, and the carbonic acid is collected in a graduated tube. Each cubic centimetre of carbonic acid gas corresponds to 0.002683 gm. of urea. Now, as 50 gm. of liquid were employed, which contained the urea of 25 gm. of blood, it is only necessary to multiply the number of cubic centimetres with 0.002683 and with 40, in order to obtain the amount of urea contained in 1 kilogramme of blood.

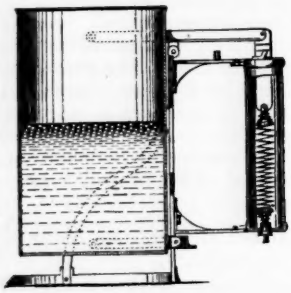
In one experiment 14.5 cc. of carbonic acid were obtained, which corresponded after the necessary correction for temperature and pressure to 13.125 cc. This would be equivalent to 0.03515 gm. urea in 25 gm. of blood, or 1.405 gm. urea in 1 kilogramme.

Blood examined in this manner always shows the presence of urea. The author found in the arterial blood of dogs as a mean, 1.431 gm. of urea per kilo. Under normal conditions this quantity varies little. And between arterial and venous blood the author has observed a constant proportion of difference.—*Pharm. Centralh.*, 1877, No. 16.

New Method of Extracting Iodine from Kelp.

In a communication addressed to the French Academy of Sciences, M. Herland observes that the introduction of considerable quantities of Chilian nitrate of soda into the European market has seriously injured the coast industry of Finisterre, where soda and iodine are extracted from kelp by burning. It appears desirable that a more scientific method should find adoption, and the following is obviating existing defects. These defects are many. In gathering the sea-weed, no attempt is made to distinguish the species yielding most iodine; the drying of the kelp is effected in the open air, on the dunes, where it is exposed to the elements and the wash of the tide, and loses much of its saline principle; besides which, incineration is itself a wasteful process, as not only is iodine volatilized, but the sea sand intermixed with the weed combines with the iodides, forming earthy alkaline silicates, and thereby entailing further loss. The author's method is conducted as follows: The kelp is gathered in iron baskets or crates open at the sides and bottom, which are placed so as to be lifted by a revolving crane standing in the centre of a circle of vats filled with water mixed with good fresh quicklime, in the proportion of 50 kilogs. lime per cubic metre. The kelp is immersed in each vat in turn, and the process repeated with fresh kelp until the liquor in vat No. 1 indicates 4.3 to 4.5 degs. of the alkalimeter. During immersion an interchange of constituents takes place between the kelp and the lye, by exosmose and endosmose, the epidermis of the plants acting as a membranous diaphragm. The immersion in each vat lasts from 40 to 60 minutes. With a set of 10 vats, each containing 6 cubic metres, 50 kilogs. of fresh kelp may be lixiviated in 15 hours. The process concludes with the evaporation of the saturated lye to dryness, calcining the residue until fusion begins. The result is a soda extremely rich in soluble salts and iodine. The old method of burning gives, on an average, 15 per cent. of potash salts, and 1 per cent. iodine. The new method gives 45 to 50 per cent. of potash salts, and 2½ to 3½ per cent., or, where care is taken in the selection of the sea-weed, as much as 5 per cent. of iodine. The waste and the clouds of smoke (a serious impediment to coast navigation) incidental to the old

method are avoided, and the sea-weed, retaining its nitrogenous principles and the lime taken up during immersion, becomes a valuable manure for sandy soils.—*Chemist and Druggist.*



Apparatus for Weighing Liquids.

An invention of J. G. Valentine, of Florence, Mass., consists of a frame having a tubular handle, inside of which is a spring. A lever is pivoted on the top of the frame, and by one end—which is forked—supports a vessel to contain fluid, while the other extremity is connected with the spring above referred to. Fluid poured into the can extends the spiral spring, and the weight is indicated on the link connecting the spring with the lever.

Gallo-Tannic Acid as a Reagent for Ammonia.

Tannic acid derived from galls is known as a general reagent for alkaloids. It is, however, important to know that under certain conditions this reagent may lead to fallacious conclusions. Tannic acid, namely, produces in solutions of *ammoniacal salts containing feeble acids* a white precipitate, as for instance in solutions of ammonium acetate. If the ammonia, however, is combined with stronger acids, as for instance in solution of chloride or sulphate of ammonium, tannic acid produces no precipitate; but, on adding a sufficient quantity of sodium acetate solution, the precipitate appears at once.—H. Hager, in *Pharm. Centralh.*, 1877, No. 17.

Wafer-Capsules as Vehicles for Administering Oils.

According to S. Limousin, castor oil, cod-liver oil, and various other liquids, which are without action upon the substance of the wafer, may be readily administered by means of the cachets de pain, or wafer-capsules. It is only necessary to unite the two empty halves of the capsule together in the usual manner leaving, however, a very narrow line of the edges unmoistened. Through this opening the necessary quantity of oil is introduced into the interior by means of a fine pointed pipette, after which the orifice is closed by simply moistening it. Or else the oil may be placed upor the cavity of the lower wafer, and the upper wafer be affixed to it in the usual manner. [This process i: not new, but is less often thought of than it deserves.—Ed. N. R.].—*Rép. de Pharm.*, 1877, 257.

Action of Boracic Acid on Plants.

According to Eug. Peligot, even very small quantities of boracic acid, either free or in combination, are fatal to plants. It is suggested that they may also be deleterious to animals, and if so, the foods preserved by means of borax, such as fresh meats received from Buenos Ayres, even though washed before use, might be injurious to the persons eating them. The question is being investigated further. [The probability is, that boracic acid will be found entirely harmless to animals and man, as it has been hitherto supposed to be, it having merely a destructive action upon the living cell-walls of plants, thereby preventing the development of microscopic fungi even in animal tissues.—Ed. N. R.].

India-Rubber and its Degree of Solubility.

A chemist named Heeren has determined by experiment that great differences exist in the degree of solubilities of various samples of India-rubber. Guayaquil rubber was found to be most soluble, one hundred parts of benzol taking up as much as twenty-five parts of rubber. Next came Para, of which twenty parts were dissolved by one hundred parts of benzol. Carthagena and Borneo samples came next in order. The worst samples, so far as solubility was concerned, were so-called Africa-Knökels, Africa-Niggara, and Madagascar. This latter was very difficult of solution, one hundred parts of benzol taking up six parts only of the rubber.—*Photographic News.*

Boracic Acid Contaminated with Lead.

At the March meeting of the Pharmaceutical Society of Paris, Mr. Schäuffèle presented a sample of boracic acid containing a considerable quantity of lead, and drew attention to the serious consequences which may result from this impurity, in view of the frequent employment of boracic acid as an antiseptic and preservative of food.

Ergot in Atony of the Bladder.

Prof. von Langenbeck, at a meeting of the Berlin Medical Society, stated that in atony of the bladder, associated with enlarged prostate, in elderly men, in which the organ is never completely emptied of urine, he had lately tried the hypodermic injection of ergotin with most surprising results. In three cases, the contractile power of the bladder was at once increased so as to enable the patient to discharge additional urine, and in a few days it had so augmented that very little urine was left behind. After one or two injections the improvement was considerable, and even a diminution in the size of the prostate seemed to have ensued. Dr. Israel said that he had derived the same benefit from the employment of ergotin, and referred to the case of a patient who was thus enabled to hold his water for three hours, whereas before he voided it every ten minutes.

RECENT PAPERS.

Répertoire de Pharmacie. Nos. 8, 9.

P. CAZENEUVE and O. CAILLOL: "On the Extraction of Organic Principles." (See p. 200.)

P. GUYOT: "Test for Iodoform." [Since iodoform is decomposed by heat into carbon, iodine, and hydriodic acid ($CHI_3 = C + I_2 + HI$; or rather $2CHI_3 = C_2 + 2I_2 + 2HI$), the author proposes to test for small quantities of iodoform as follows: The liquid to be examined is placed into a small flask closed with a perforated cork, carrying a glass-tube bent at right angles, and the outer limb of which is rather long. At a point distant from the cork a fragment of starch is introduced. Heat being applied to the flask, vapor of water and of iodoform is driven over, which is decomposed by heating the tube slightly in front of the outer angle, whereby a little carbon and farther on some iodine is deposited. The latter may be sublimed along the tube, and on reaching the starch will color it blue.]

S. LIMOUSIN: "Method of Administering Oils by means of Wafer-Capsules." (See p. 206.)

G. LECHARTIER AND F. BELLAMY: "On the Presence of Zinc in Animals and Plants." [The authors have found that the human liver contains, probably as a regular constituent, small quantities of zinc; a weight of 1,780 gm. of fresh liver yielding about 0.02 gm. of zinc oxide. This led them to search for zinc in animals serving as food for man, and in plants serving as food for both. They obtained 0.03 gm. of zinc oxide from 913 gm. of the muscular tissue of an ox; 0.02 gm. of zinc oxide from 1,152 gm. of eggs, minus the shells; and found it also in grain, Indian corn, barley, millet, and white Italian beans.]

OBERLIN AND SCHLAGDENHAUFFEN: "On the True Angostura Bark of Colombia." [The authors announce in this bark the presence of an alkaloid, crystallizable, soluble in ether, chloroform, and petroleum ether, and entirely different from Saladin's cusparine. The authors have chosen the same name, *cusparine*, for theirs.]

HECKEL AND SCHLAGDENHAUFFEN: "On the Oil and Oleo-Resin of Calophyllum." [The commercial *Baume Marie, Green American Balsam, Oriental Tacamahac*, etc., is nothing else than the oil and resin of *Calophyllum Inophyllum* (Guttiferae), a tree which is named *tamananou* or *pit* in Polynesia, and kaï-meu-how in Cochin China. It is found from Tahiti and New Caledonia as far as Madagascar in the Indian Ocean. By incision, or spontaneously, it yields an oleo-resin, which we know as "oriental tacamahac." This oleo-resin is accompanied by a *fixed* oil, which is called tamanou-oil, and has a green-yellow color.]

Pharmaceutische Zeitung. Nos. 29–42.

KOBLIGK: "On Markoe's Process for Preparing Phosphoric Acid."—[The author reports that he has tried the method repeatedly, and has failed, as the reaction became too energetic, and caused explosion.—Perhaps not sufficient care was taken in adding the bromine slowly enough.—Ed. N. R.]

THEOD. HUSEMANN: "On Chronic Lead-Poisoning."—[It is well-known that a lemonade prepared with sulphuric acid has been recommended for the use of workmen in white lead factories, by which any absorbed lead might be converted into insoluble sulphate of lead, and thereby rendered harmless. This salt, however, is not so innocuous as has been supposed. An undoubted case of lead-poisoning has been caused, according to Dr. Cantani, of Naples, by the use of a face-powder consisting entirely of lead sulphate.]

C. SCHACHT: "On the Quantitative Determination of Metallic Iron in Ferrum Redactum."—[The author reviews the tests of purity which are given in the various pharmacopœias, as well as the processes proposed by various investigators for its assay. The most usual method was to treat reduced iron with a solution of iodine of known strength, allowing it to macerate until all the iron had combined with iodine, and then determining the excess of iodine by means of standard hyposulphite solution. Creuse's process, consisting in measuring the hydrogen set free by a given amount of the reduced iron on addition of an acid, is also reviewed by the author, who cannot fully endorse it. He made a series of experiments to determine the best method of assay, and found the following results:—A. The iron is digested either with iodine or with bromine solution of known strength, at a temperature of 40–50° C. In this case no uniform results could be obtained. Moreover, the bromine is so apt to escape from the bromine water, that the employment of the latter is unadvisable. The author, therefore, substituted for it a solution of bromine (5 gm.) and potassium bromide (7.5 gm.) in 100 cc. of water. B. The iron is *macerated* either with iodine or with bromine solution (made as just stated), at ordinary temperatures. In this case it was found that iodine gave likewise unreliable results; different quantities of the same sample of iron yielding very varying percentages of pure iron. On the other hand, by treatment with the bromine solution, the results obtained were quite satisfactory, the differences observed in the same sample never exceeding 0.54 per cent. Perfectly pure reduced iron (such as is made by Dr. A. Rundspaden, in Hameln, a. d. W., and sold as "*Ferrum reductum purissimum*,") was found to be entirely soluble in a solution of ferric chloride of spec. grav. 1.300. The author concludes by giving the following criteria for pure reduced iron: "An exceedingly fine, gray, loose, lustreless powder, which becomes converted into ferric oxide by heating in the air. It should be completely soluble in warm, diluted, pure hydrochloric acid, and the evolved gas (hydrogen) must be entirely indifferent against paper impregnated with lead acetate. When treated for half an hour with 25 parts of a solution of ferric chloride of spec. grav. 1.300, in a glass-stoppered vial, under repeated shaking, it is entirely dissolved.]

OTTOKAR ALT: "On Caroba."—[Drawing again attention to the valuable properties of the leaves of *Jacaranda procera* or *Braziliensis*, which is known in the market as *Caroba* or Caa-roba or Caraïba. It is said to be a most effective remedy in the various forms of secondary syphilis, promoting increased action of the skin, and exciting appetite. It is generally prescribed in the form of decoction: 8 gm. in 300 gm. decoction per day. The powder or extract is used as a local application to syphilitic sores. The extract may be obtained from J. v. d. Heide, in Hamburg.]

"A new Fish-liver Oil. [Dr. Markonnet, of St. Petersburg, has made experiments with the oil obtained from the livers of lampreys (Petromyzon fluviatilis), which are obtained in immense quantities at the mouths of rivers emptying into the Caspian Sea. It looks like olive oil, has a tolerably agreeable taste, is thinner than cod-liver oil, contains more iodine than the latter, and is an efficient substitute for it. Its price is only about ⅓ of that of cod-liver oil.]

BARRAL: "On the Detection of Iodine in Cod-Liver Oil." [As the saponification and subsequent incineration of cod-liver oil often causes a loss of the more volatile substances, among them also of iodine, the author proposes a new plan. The oil is burned with a wick in a glass lamp, covered with a large bent tube, the draft caused by the flame and the ascending fresh air carries the products of combustion into the descending portion of the tube, where they are received in water. This solution is then supersaturated with caustic potassa, and evaporated to dryness. The residue is mixed with fresh starch-solution, and a drop of the mixture having been transferred to a watch-glass, chlorine water (a drop) is added. In the case of fish-oil the blue iodide of starch always makes its appearance.]

Bulletin de Thérapeutique.

M. A. PETIT: "Conia and its Salts." [The author states that conium presents several properties which differ materially from those generally admitted.

It boils at 170° Cent., with a pressure of 760 mm. Its density at a temperature of 12° is 0.846. Its polarimetric power is equal to + 11 immediately after it is prepared, but it gradually diminishes until it becomes nearly constant at + 10.36, which corresponds to 81° saccharometric for a tube 2 decim. in length filled with pure conia.

One c.c. of pure conia should give 1.093 gm. of anhydrous chlorhydrate, containing 21.9 per cent. of chlorine,

and should exactly saturate 6.65 cc. of a solution of monohydrated sulphuric acid containing 50 grammes to the litre.

Ether, oil, and benzine are without action over its rotary power; chloroform diminishes it, but much less so than alcohol, which lowers it to + 7.42°.

The bromhydrate and chlorhydrate are fine anhydrous salts, entirely permanent even at 120°, very soluble in water or alcohol, and having a rotary power six times as great in alcoholic as in aqueous solution. The best method for obtaining them is to saturate pure conia distilled in a current of hydrogen, with bromhydric or chlorhydric acid, employing only that which passes over at a fixed temperature of 170°; then by slow evaporation in a water-bath the salts are obtained in beautiful colorless crystals.]

E. Lelu and G. Lugan: "Note on the Employment of the Double Cyanide of Zinc and Potassium in Articular Rheumatism." [The authors consider this preparation more sure in its effects, and easier to manage than any other form of hydrocyanic acid.

It is not altered by exposure to the air. It is soluble, and its chemical composition is constant.]

Journal of the Chemical Society.

May. J. Stenhouse and Ch. E. Groves: "Note on Gardenin and on Ginger." Dikamali Resin,* the resinous exudation of *Gardenia lucida* Roxb., contains a crystallizable resin, *gardenin*, which the authors have re-examined. They obtained it in brilliant deep yellow needles, for which they obtained the corrected formula: $C_5H_5O_2$.—The resinous substance contained in *Ginger*, to which it owes its pungency, was subjected to a preliminary examination, and protocatechuic acid was obtained from it, showing that it stands in close relationship to the so-called aromatic series.]

A. Dupré: "On the Estimation of Urea by means of Hypobromite." (See next number.)

Dr. Maxwell Simpson and C. O'Keefe: On the same subject. (See next number.)

Pharmaceutical Journal and Transactions. Nos. 359–364.

"The Month": [A number of spurious drugs have appeared on the London market: capalchi bark was offered as angostura bark; Para bark, devoid of alkaloids, but closely resembling quilled calisaya, was offered as such; besides a spurious cinchona, *Stenostomum acutatum*. Black or striated ipecacuanha (*Psychotria emetica*) was tendered at a lower price than the true root. Indian dill seed (*Anethum Sowa*) have been offered as Sowu seed—instead of common dill seed.]

Enonynim and Iridin (from *Enonymus artropurpureus*, Wahoo; and *Iris versicolor*, Blue Flag) have been highly spoken of by Dr. Rutherford and M. Vignal, as very valuable cholagogues.

A new highly-praised remedy for skin-diseases, said by Dr. Murray to produce wonderful effects in some cases of tinea and eczema, is a new Chinese drug, *Tong pang chong*, said to be the product of *Akebia quinata* Dec., nat. fam. Berberidaceæ.]

W. Dymock: "Notes on Indian Drugs." [*Cassia alata*, local Dadmurdun.† Used like senna.—*Cassia auriculata*, local Turwar or Awul. The bark is an astringent.—*Daemia extensa*, local Ooternee. The leaves have a reputation as an expectorant and emetic.—*Ailanthus excelsa*, local Maharook. The bark is as bitter as quassia, and is a promising drug.—*Abutilon Indicum*, local name of seed Bulbij. Seeds are mucilaginous.—*Brachyramphus Sonchifolius*, local, Voondracha Kan. Called "Goa Taraxacum," or "Rat's Ear." It is used as a substitute for taraxacum.—*Boerhavia diffusa*, local Punanarwa. The dried herb is used as an expectorant.—*Mimusops Elengi*, local Wowlee. The bark is bitter and astringent.—*Soymida febrifuga*, local Rohun. Bark used as astringent tonic.—*Erythræa Roxburghii*, local Chota Chirayta. The whole plant is a good bitter, like the true Chiretta (Agathotes Chirayta).]

E. M. Holmes: "The Cultivation of Medicinal Plants at Banbury." [Mr. Rufus Usher, of Bodicote, near Banbury, is a cultivator of medicinal plants. Of 65 acres under cultivation, 20 are devoted to rhubarb, 40 to henbane and 4 or 5 to white poppy, besides a little Rosa Gallica.

Among other species of Rheum, Mr. Usher also grows the new *Rheum officinale*, of which he has about 40 large plants, which are truly magnificent, each occupying a space 8–10 feet square, and being 4–5 feet high. Some of the leaves are nearly 3 feet broad, and a little longer than broad.

Henbane culture is beset with great difficulties. It grows slowly, is often choked by weeds or the roots are destroyed by worms, so that whole patches are left barren. Hence the high price. The plants are collected for drying about the 3d week in June. The upper leaves are deprived of the midrib, and these as well as the flowering tops are dried, and form the best biennial henbane of commerce. The lower leaves and stems are used for preparing extract, being crushed under an edge runner, the juice expressed by hydraulic pressure and evaporated. The leaves and tops are dried in kilns, of which 7 are in use at once.]

Liebig's Annalen der Chemie. 187, 1.

C. Stein: "On Phosphatic Sediments in Alkaline Urine." [A patient suffering from some gastric disease voided a urine containing triple phosphates, and peculiar microscopic, colorless, refracting, rhombic plates of an unknown character. The urine was *alkaline*. These singular crystals turned out to be magnesium phosphate. The authors also found the latter in the urine of horses.]

L'Union Pharmaceutique. Nos. 3–5.

Bouchardat: "Pasteur's Cinchonidia Sulphate and the Quinidia Sulphate of German Manufacturers." (See next number.)

Dr. Merz: "On Quinia Sulphovinate and its Use in Intermittent and Malarious Fevers." [Reporting that he has used a watery solution of this salt with complete success, and without local lesions, hypodermically.]

Lamy: "On the Manufacture and Properties of Celluloid." [Celluloid is the name of a substance invented and patented about 3 years ago in the United States. It is mainly a mixture of pyroxyline with camphor, and is manufactured as follows: A sheet of endless paper is subjected to the action of 5 parts of sulphuric and 2 parts of nitric acid; the acids are removed by washing and pressure; the washed paste when partially dried is ground in a mill and then mixed with camphor. It is then subjected to powerful pressure in a hydraulic press between fine blotting paper, after which it is cut, ground and again pressed in a special apparatus where it can be heated, and which yields the crude celluloid in sticks or plates, as an elastic and transparent mass. The various operations are performed in 4 separate fire-proof buildings. Celluloid is inflammable, although not very easily, and is decomposed when heated over 135° C.]

P. J. Haaxman: "On the Preparation of Neutral Tannate of Quinia." (See next number.)

M. Planchon: "On the *Hoang-Nan* Bark." [In our May number, page 147, we gave a short notice of a drug which has been highly extolled by the resident missionaries of Tonquin. Mr. Planchon has since then received specimens of the bark, and declares them to belong undoubtedly to a species of *Strychnos*. The anatomical structure and the chemical composition equally confirm this. F. Würz has found in it strychnia and brucia, the latter in larger quantity than the former. The reddish powder which is found upon the bark, and which is said to be the active portion, is exactly analogous to that found on the so-called "False Angostura Bark," which has been analyzed by Pelletier, and was found by him to be entirely inert. Most likely the bark is used in conjunction with the powder, and hence the active effects.]

La Ruche Pharmaceutique. Nos. 3–5.

P. Guyot: "New Source of Citric Acid." [The juice of the *tomato*, *Solanum Lycopersicum* L., was found by the author to owe its acidity to citric acid.—The presence of

* See *February number*, p. 49.

† Recommended by Dr. David Foulis and others as a remedy for ringworm. The leaves contain chrysophanic acid.

this acid in various species of Solanum has long been known. —Ed. N. R.]

American Journal of Pharmacy.

June. A. B. Taylor: "Proposed Changes in the U. S. Pharmacopœia." [Continuation of the arguments against the plan proposed by Dr. Squibb. Followed by some important recommendations in respect to the actual work of revision, and showing the difficulties in the way of introducing parts by weight, exclusively, into the official formulæ.]

P. P. Fox: "Tincture of Kino, which will not Gelatinize." [Kino in fine powder, 360 grains. Mix 4 measures of alcohol with one each of water and glycerine, mix the powder with an equal weight of dry sand, introduce it into a glass percolator, and gradually pour the menstruum upon it, until ½ pint of tincture is obtained.]

Th. G. Davis: "Liniment Iodide of Ammonia." [Reports having assayed the quantity of *iodine* contained in "Giles' Liniment Iodide of Ammonia," and found it to contain only very trifling quantities of it.

The author recommends a formula for a reliable "Liniment of Iodide of Ammonium," which will be found on page 222 of this number.]

Berichte der Deutschen Chemischen Gesellschaft. Nos. 8, 9.

Hugo Schiff: "A New Reaction for Urea." [On adding to a solution of urea in about 3 parts of concentrated solution of furfurol,* a few drops of concentrated hydrochloric acid, the liquid becomes warm, gradually assumes a magnificent purple-violet color, and finally congeals to a firm brownish black mass. Alcoholic solutions behave in the same manner. The only other substance (of an amide character) which gives this reaction is allantoin. The reaction is so delicate that a single drop of a 1% urea solution mixed with ½ cc. of furfurol solution and 3 drops of hydrochloric acid, still gives an intense coloration after five minutes.]

Pharmaceutische Centralhalle. Nos. 18–20.

H. Hager: "Spontaneous Explosion of Bismuth Subnitrate." [A singular case occurred to an apothecary in Schwartau, Germany, whose stock-bottle of bismuth subnitrate exploded one evening in the store. The preparation had been made by the apothecary himself, strictly according to the directions of the pharmacopœia. It is supposed that a concussion, caused by working a pill-mass in a mortar, started the explosion, but its cause is a mystery. Dr. Hager desires to know if any other similar cases have been observed.] We never heard of Bismuth Subnitrate exploding; but cases of explosion of a mixture containing Sodium Bicarb. and Bismuth Subnit. are related in *Pharm. J. and Trans.*, June 23, 1877, and elsewhere.—Ed. N. R.

H. Hager: "Lead in Ammonium Chloride." [A lot of ammonium chloride (muriate) has been met with which was found to be contaminated with 1.125% of lead chloride.]

G. C. Wittstein: "On Zinc Sulphate accompanied by Magnesium Sulphate, and vice versa." [Having already years ago noticed the regular occurrence of magnesium in the commercial crude white vitriol, the author has now also discovered its presence in metallic zinc, which may besides contain aluminium.]

G. C. Wittstein: "On the Quantitative Estimation of Soda and Potash, when present together." (See next number.)

Import Duty on Quinia.—At the meeting of the seventy-ninth annual convention of the Medical and Chirurgical Faculty of Maryland, held on the 10th, and two following days, of April, the resolution of Dr. J. B. Lynch that the President, Vice-President, and Secretary be appointed to memorialize Congress and correspond with medical societies with reference to the removal of import duty on quinia, was unanimously adopted.

*Furfurol, or pyromucic aldehyde, or artificial oil of ants, $C_5H_4O_2$ or $C_4H_3O.CHO$, is produced by the dry distillation of sugar, and by the distillation of bran, flour, gum, sawdust, etc., with dil. sulphuric acid. It is a colorless oily liquid of an aromatic odor, of spec. gr. 1165, soluble in water, alcohol, and ether.

ORIGINAL COMMUNICATIONS.

SODA-WATER APPARATUS.

PRACTICAL HINTS CONCERNING ITS SELECTION AND MANAGEMENT, AND SUGGESTIONS AS TO THE BEST METHODS OF MAKING AND DISPENSING CARBONATED BEVERAGES.

(Continued from page 180.)

With reference to generators the main points to be considered, aside from expense, are the safety and convenience of the druggist and his assistants; but, as regards fountains, the overwhelming consideration, quite irrespective of cost, should be the safety and benefit of the soda-water drinking public. The phrase, "irrespective of cost," is used advisedly, for the man who cannot afford to buy good fountains has no right to ruin the business by using those which are dangerous even when new, and which soon begin to produce nausea, disgust, and even worse results, in those who drink the water contained in them.

The fountains in general use at the present time are of four kinds as regards the external shell, namely, copper, cast-iron, wrought-iron, and steel; and of three kinds as regards the interior, namely, tin-washed, tin-lined, and enamelled. The different styles from which a choice must practically be made are shown in the following table, giving the average prices of ten-gallon fountains of various kinds:

Copper, tin-washed	$40
Cast-iron, enamelled	40
Cast-iron, tin-lined	43
Wrought-iron, tin-lined	45
Steel, tin-lined	50
Copper, tin-lined	60

Besides these there are also in use a limited number of glass-lined iron fountains, employed mainly for mineral waters, and a very few silver-lined copper fountains, designed for carbonated wines. The glass-lined fountain of the ten-gallon size costs about $75, is much less durable than the tin-lined or even the enamelled one, and for soda-water is no better. The silver-plated fountain of the same size is worth about $100, but for ordinary use the steel tin-lined fountain, costing only half as much, is fully equal to it, and in important respects decidedly superior. Both of these kinds may therefore, on the score of expense, be left entirely out of the account.

The tin-washed copper fountain, which stands first on our list, is the curse of the soda-water trade, and deserves a blacker mark than we have given it above. This "tin-wash" is really a kind of alloy, for it is put on by pouring the melted tin over the copper, with which it unites, thus bringing to the surface coppery particles which begin to be worn off and to corrupt the water the very first day the fountain is used. After a few weeks this preliminary stage of slow copper-poisoning is passed, and then for some months, perhaps a year, but never for more than two years, the fountain is comparatively harmless, as far as the copper is concerned. Sooner or later, however, the film of tin wears through, and if, by carelessness in charging, any sulphuric acid gets into the fountain, the mischief is very quickly done. With this film once worn away, the copper-poisoning recommences and steadily proceeds, growing worse and worse according to the amount of copper surface uncovered, and the length of time the water stands in the fountain before being used. This state of things is surely bad enough, but it is very generally aggravated by the practice of strengthening the brazed seams of such fountains with common solder instead of with pure tin, thus setting up a mild lead-poisoning from the outset. This may not be noticed, but, when the copper begins to work, the customers are very apt to discover that soda-water does not agree

with them, somehow, any more; old drinkers gradually discontinue the practice, and new ones find a single trial all they care for, and secretly wonder how it is that so many people pretend to like soda-water. This avoidance may save the public from any serious injury, but it is ruin to the business. Many a puzzled druggist, after a year or two of success, has seen his trade unaccountably dwindle away, and has innocently attributed the change to "hard times" or "popular caprice," never suspecting that the treacherous fountains in the cellar, apparently as sound and good as ever, were really the cause of the whole mischief.

The truth of this is illustrated on a large scale in the two cities of Philadelphia and New York. The former has fewer inhabitants, but its summers will average hotter, and the soda-water business was started there earlier—two facts which should bring the consumption nearly to the point reached in New York. But in fact, at the present day, New York uses ten times as much soda-water as Philadelphia! The consumption there has actually dwindled, owing to the general use of old tin-washed copper fountains, while in New York it has enormously increased, especially since the introduction of the tin-lined steel fountain, in which any contamination of the water is impossible. Notwithstanding the continued hard times, a New York firm, using these fountains, sold more soda-water during a single week of this last May than in any week in any previous May during a business of nearly half a century.

It is also a peculiarly significant fact that a leading manufacturer of these tin-washed copper fountains candidly confessed to the agent of a tin-lined iron fountain manufacturer: "I never drink anything from my own fountains. Whenever I want any soda-water I make it a point to get it at some place where they use your fountains." Equally significant is it that hundreds of old copper fountains, which are taken in part payment for new and improved ones, and which might readily be resold, especially to Western purchasers, are annually broken up for old metal at a loss of six or eight dollars on each fountain, merely because conscientious and far-sighted manufacturers prefer to sacrifice thousands of dollars of immediate profit, rather than connive at anything so injurious to the soda-water interest as the continued use of these poisonous fountains.

The magnitude of this evil may be inferred from the fact—from the deplorable fact—that fully one-half of the fountains in use in the United States and Canada are of the tin-washed copper kind, and of these a very large proportion have reached the point at which they become worse than worthless. It would give us great pleasure to believe that no reader of NEW REMEDIES is using an old copper fountain, but the chances are greatly against such a happy state of things. However, as to what ought to be done at once, wherever there is a tin-washed copper fountain in use, there cannot be the slightest doubt. After dispensing the contents, take the few ounces of water usually left in the bottom of the fountain after it is emptied by the pipe in the usual way, and test it carefully with the common chemical tests for copper and lead. If the liquid is free from any trace of these poisons, repeat the test in the same manner at short intervals during the summer, especially when the water has stood in the fountain for any more than the ordinary time. Always examine the dregs, the practice of testing the liquid when newly made being altogether delusive. When you find enough copper or lead in the water so that, if you had a particularly delicate digestive apparatus, you would hesitate to swallow a glassful of it yourself, put aside that fountain, and either get a new tin-lined or enamelled one, or else—*quit the business!* This may be—nay, it is—a rather "heroic" prescription, but it is required by the emergency. To sell such a drink, even though only the purchasers of the last two or three glasses in the fountain get the really "bad stuff," is unworthy an honest business man, and especially unworthy an intelligent pharmaceutist. Furthermore, it is destruction to the business, for that fountain is sure to go from bad to worse, and you will do your trade less harm to throw it aside, and even to stop selling, if need be, for a week or a month, or the whole season, than to go on using it. At all events, if you haven't "pocket courage" enough for this, throw away the last few glasses in every fountainful, and all that may have stood over forty-eight hours, even if it be the entire contents.

It is devoutly to be hoped, however, that no such temporizing policy will be adopted. "Reform it altogether" is the only safe maxim to follow in dealing with the old copper fountain evil. Don't throw away good money and buy a certain recurrence of the mischief by having the thing re-washed, and don't let it fall into the hands of any conscienceless chap who will go on using it to the destruction of the business and the public stomach, but smash it up at once, and sell it for what it will fetch as old metal. Assuming that you have resolved on this course, some hints as to the selection of a new fountain will come next in order. In the first place: *Have nothing to do with copper.* It has only two advantages: it is comparatively light, and does not require painting to keep it from rust. But when tin-washed it is a nuisance, and when tin-lined it makes one of the most expensive of fountains. Wretched quality on the one hand and high price on the other must rule out copper entirely. Beware, particularly, of plausible agents who offer you cheap copper fountains "lined with pure tin." This sounds well, but it means "tin-washed." A copper fountain lined with *pure sheet-tin* cannot be sold cheap. It is a particularly safe rule to buy fountains only of a manufacturer of recognized integrity, because even an expert cannot always distinguish by inspection between the tin-washed and the tin-lined ones.

Excluding copper, as common sense requires us to do, the choice is limited to iron and steel. The cast-iron enamelled fountain costs no more than the tin-washed copper one, and in its essential qualities is much superior. There is a chance for trickery here, also, for the enamel is a kind of porcelain glazing, and there is a temptation to mix lead with it to facilitate putting it on. This, of course, can only be guarded against by buying of a trustworthy manufacturer. The cast-iron fountain, when tin-lined, costs only a few dollars more, but the sheet-tin, which is really a complete fountain in itself, encased in the iron jacket, may be expected to last ten years before requiring to be renewed, while the enamel will probably begin to scale off, making re-glazing necessary, in half that time. The great objection to these fountains is their weight, but with most druggists this is a matter of comparatively little moment. When it is at all serious, the tin-lined wrought-iron one, equally durable and very much lighter, may be had for a small additional expense. Enamel, it should be observed, can only be used on the heavy cast-iron ones. The perfection of portable fountains is found in those made of steel, which combine strength and great lightness with such a complete and flexible union between the tin lining and the outer shell that the former is calculated to wear as much as fifteen years before needing renewal. The steel fountain will not stand such rough usage as the iron ones, especially the cast-iron, and it must be kept constantly painted, or rust may speedily and seriously injure it. The iron ones ought, also, to be kept painted, but the risk from rust is far less. For the wholesale soda-water dealer the steel is much the best, but for the average druggist the choice may well fall on the tin-lined cast-iron fountain. It is reasonable in price, will endure neglect and hard usage with equal fortitude, will last ten years before it needs re-lining, and for keeping soda-water perfectly pure is all that need be desired. The enamelled cast-iron is a little cheaper, and practically as good during the five years that the glazing lasts. It is even to be preferred for certain alkaline carbonated waters, which are apt to become sour in tin. Probably, also, it is expedient to select the enamelled fountain for use wherever the winters are very cold, as in Canada and Northern New England, from the fact, not very generally known, that at very low temperatures pure tin is liable to suffer a peculiar crystalline degeneration, which is likely to shorten the life of the tin lining by one-half in the colder latitudes to which soda-water apparatus goes. This sort of degeneration is sometimes a very serious matter. A quantity of pure tin tea-pots made for the Russian government were found, after two or three years' storage, to be reduced to a heap of

blackened fragments. The manufacturer was arrested and in imminent danger of Siberia or the knout, despite his protestations, when, fortunately, some of the fragments were sent to Bunsen, who pronounced them pure tin, and further investigation showed that the extreme cold had caused this destruction, although alloyed tin, strangely enough, is quite unaffected by it.

In brief, then, in selecting your fountains, eschew copper; take iron for stationary, steel for portable use; for cheapness and for cold climates choose an enamelled lining, making sure that it is free from lead; to secure the best value for your money get the pure sheet-tin lining (except for cold climates) and always insist that it be soldered with pure tin and not with common lead solder.

The management of good iron or steel fountains is very simple, and you cannot easily go astray. Charge them with care, according to the suggestions already made with reference to the generator. Keep them painted, steel ones especially, and see that no water is left in them to freeze. If they have been in use long, inspect them carefully, at the end of each season, to see if they need re lining or re-glazing; don't wait till the next spring, when there will be no time to repair them, even if they require it. Be satisfied with the common method of agitation and do not get the fountains with agitators inside; they are advantageous only in the very large sizes made for bottlers. And always use faucets of pure tin encased in a hard metal jacket, scrupulously avoiding the brass tin-washed faucet in too common use, the poisonous effect of which, when worn, is usually much intensified by concentration in a single glass.

In treating of the fountain, thus far, we have had special reference to the needs of the average druggist, who merely makes soda-water for his own use; but, before leaving the subject, something should be said of the remarkable field opened by the steel fountain to enterprising druggists with capital enough to go into the wholesale manufacture of soda-water. Experience shows that the consumption of this beverage may be astonishingly increased by (1) insuring its perfect purity, and (2) multiplying the number of places where it is sold. Four-fifths of the soda-water dispensed from fountains is drunk in the very warm weather—in weather when people will do without, sooner than go far for it, yet will drink freely if it is close at hand. But the cost of generators and fountains is so great, and the trouble of manufacturing the water appears so considerable to the inexperienced, that many small dealers hesitate to embark in the business, though they would gladly undertake it if they could be sure of getting pure soda water delivered daily in fountains, and be put to no special outlay beyond the purchase of a simple counter apparatus. The results attained through the aid of the steel fountain, by those engaged in building up this form of the soda-water business, are almost incredible. A Boston man, after securing in three years a trade requiring the use of one hundred and fifty old-fashioned copper fountains, was persuaded to discard them and try steel; in a single season he quadrupled his trade, making six hundred fountains necessary, and thus placing himself at the head of the business in that city. In Philadelphia, Mr. G. in one year put eight hundred steel fountains in use, distancing at a bound long-established rivals whose trade was actually dying through the dry rot of worn-out copper.

Dismissing now this branch of the subject, and returning to our average druggist, let us suppose him happily rid of any copper fountains he may have been so unfortunate as to have, and well supplied with pure soda-water in iron or steel fountains, tin-lined or enamelled. The next and last point to be considered is the very important one of the proper apparatus and accessories for dispensing the beverage in the manner at once most convenient to himself and most satisfactory to his customer.

(To be continued.)

Castor-Oil Wafers.—M. Limousin exhibited, at a recent meeting of the Société de Thérapeutique, in Paris, a sample of medicated wafers, containing 3 to 4 grammes of castor oil each.

THE ACTION OF CERTAIN MANIPULATIONS AND REAGENTS ON CALOMEL.*

BY FRED. M. CORWIN, PH.G.

MERCURY forms two classes of salts, one containing proportionately twice as much acid radical as the other, and each convertible into the other by certain agents.

The mercurous chloride, or calomel, is mild in its action on the human system, being a safe and much-used remedy.

The mercuric chloride, and mercuric salts in general, are powerful and corrosive agents, often producing serious and fatal results.

The object of the following experiments was to ascertain whether *mercuric* salts were produced from *mercurous* (namely *calomel*) by the agents and methods described.

The agents were either physical or chemical.

The physical agents were trituration, boiling with water, and sublimation.

The chemical agents were certain dilute acids and salts of the U. S. P.

The tests used for the detection and identification of mercuric mercury were metallic copper and hydrosulphuric acid in strongly acidified solutions.

In all cases where a deposit was obtained on copper, the copper, after being thoroughly washed and dried, was placed in a clean dry test-tube and heated to redness.

If mercury was present it sublimed and collected in a cooler part of the tube. A crystal of iodine was then placed in contact with it, and heat again applied, when the yellow iodide of mercury turning red by friction sublimed in another part of the tube.

The hydrosulphuric acid was added in small portions at a time, producing at first a light colored precipitate, turning yellow, orange, brown, and black as the successive portions were added. This reaction is characteristic of a mercuric salt.

Several attempts to obtain absolutely pure calomel proved unsuccessful. That used, being the purest which was examined, was found to contain a small quantity of ferric iron, probably as ferric chloride.

I. PHYSICAL AGENTS.—a. *Trituration.*—About two drachms of calomel were rubbed in a dry porcelain mortar. On moving the pestle through it with pressure, it produced shining *straw-yellow* streaks, and the whole powder gradually assumed a yellowish tint. After rubbing for half an hour it was macerated with water, filtered, and the filtrate acidified with hydrochloric acid.

Copper: no action. Hydrosulphuric acid: no action.

b. *Boiling.*—1. About two drachms were heated in a flask with water, on a water-bath, for fifteen minutes, the mixture filtered, the filtrate evaporated about one-half on a water-bath, and acidified with hydrochloric acid.

Copper: no action. Hydrosulphuric acid: no action.

2. About two drachms were boiled in a flask with water by direct contact with flame, and under constant agitation, for fifteen minutes, filtered, the filtrate evaporated about one-half on water-bath, and acidified with hydrochloric acid.

Copper: *a deposit.* Hydrosulphuric acid: *characteristic precipitate.*

c. *Sublimation.*—1. About twenty grains were heated in a dry test-tube, the heat being only sufficient to slowly sublime it. It was then macerated with a small quantity of water, filtered, and filtrate acidified with hydrochloric acid.

Copper: no action. Hydrosulphuric acid: no action.

The sublimate was perfectly white.

2. About twenty grains were heated so as to sublime rapidly, the glass becoming red hot. It was macerated with water, filtered, and the filtrate acidified with hydrochloric acid.

Copper: *a deposit.* Hydrosulphuric acid: *characteristic precipitate.*

The sublimate had a grayish appearance in places, probably due to metallic mercury.

II. CHEMICAL AGENTS.—a. *Acids.*—The acids used were the dilute acids of the Pharmacopœia. About a drachm

* From a thesis presented to the College of Pharmacy of the City of New York.

of calomel was placed into a five-inch test-tube, the tube was nearly filled with an acid, and allowed to macerate for three days, being agitated occasionally. It was then filtered and the filtrate evaporated about one-half on a water-bath.

With some acids a change was noted in the appearance of the calomel; with others it remained unaltered. The following table exhibits the results:

Acids.	Copper.	Hydrosulph. Acid.	Appearance.
Hydrochloric.....	Deposit.	Characteristic ppt.	Unchanged.
Nitric	Not used.	" "	"
Sulphuric..... ...	No action.	No action.	"
Hydrocyanic	Deposit.	Characteristic ppt.	Turns dark.*
Nitro-hydrochloric.	Not used.	" "	Unchanged.
Phosphoric.....	No action.	No action.	"

b. *Salts.*—Of the salts used, sixteen were in solution with water. The solutions were made by dissolving one part of the salt in ten parts of water, with one exception, namely, the potassic chlorate solution, which was made by dissolving one part of the salt in twenty parts of water.

About half a drachm of calomel was placed into a five-inch test-tube, the tube nearly filled with a solution and allowed to macerate three days with occasional agitation. It was then filtered, and the filtrate acidified with hydrochloric, nitric, or sulphuric acid, according to the character of the salt.

With some of the solutions a change was noted in the appearance of the calomel, either immediately or on standing.

Solution of	Copper.	Hydrosulph. Acid	Appearance.
Potass. Bromide....	Deposit.	Characteristic ppt.	Lead color.
" Chlorate....	No action.	No action.	Unchanged.
" Cyanide...	Deposit.	Characteristic ppt.	Dark, nearly black
" Hypophosphite.....	No action.	No action.	Unchanged.
" Nitrate.....	"	"	"
" Sulphate...	"	"	"
" Sulphite ...	"	No ppt. Separation of S.	Greenish gray.
Pot. & Sod. Tartrate	Deposit.	Characteristic ppt.	Unchanged.
Ammon. Bromide...	"	" "	Slate color.
" Chloride...	"	" "	Unchanged.
" Iodide.....	"	Orange red ppt., which gradually turns dark, same as $HgCl_2$ in NH_4I.	Turns yellow, then dark with green tint. Solution is yellow.
" Nitrate....	"	Characteristic ppt.	Dark at point of contact. Gray on agitating.
" Sulphate ..	"	" "	Unchanged.
Sodic Chloride.....	"	" "	"
Ferric "	No action.	No action.	"
" Pyrophosphate	"	"	"

Of the two following salts, about a drachm of each was rubbed, with an equal bulk of calomel, in a porcelain mortar for fifteen minutes. They were then macerated with a small quantity of water, filtered, and the filtrates acidified.

Filtrate from	Copper.	Hydrosulphuric Acid.
Bismuth Subnitrate..	No action.	Peculiar ppt. Not characteristic of mercury.
Ferric Ferrocyanide..	"	No action.

* On the reaction between calomel and hydrocyanic acid, see a paper by T. H. Powell and J. Bayne, in *Pharm. Journ. and Trans.*, April 8, 1876. *New Rem.*, v., 139.—Ed. N. R.

The New Coffee Tree.—The botanical garden of Berlin will shortly possess a specimen of the new species of coffee, which has been discovered in Liberia. It is said to be still more aromatic than the best Mocha, and the beans are said to be twice the size.

ON THE ORIGIN OF OUR PHARMACEUTICAL SIGNS FOR WEIGHTS AND MEASURES.

The signs which we make use of to indicate certain measures and weights are nearly all of very ancient origin, but have in the course of time undergone a good deal of modification, owing to the successive changes in the materials used in writing and sculpturing. The oldest written documents which have come down to us containing such signs are the Egyptian papyri, the most remarkable of which is the Papyros Ebers,* written 1552 before Christ, and containing the oldest medical and pharmaceutical treatise in existence. In later times some of these signs, or at least their equivalents, applied to *monetary* value, occur upon inscriptions on stone, and upon ancient coins, and later, when the Arabs began to translate the medical works of the Greeks, and Latin translations were made of the works of prominent Arabic physicians, and when monastic scholars monopolized the art of writing and calligraphy, the forms of these signs, as well as the shapes of other letters, underwent many, although often only slight modifications. We cannot spare the space to go deeper into the subject than just to give the information desired by our readers; hence we refrain from any further introduction.

Most of the signs in question are simple abbreviations, the first letter of the word being chosen to indicate it. To this class belong

℥ = *minimum*, "the smallest"; a minim.
O = *octarius*,[1] "an eighth part"; a pint.
C = *congius*,[2] "a certain measure (=χοῦς)"; a gallon.
M = *manipulus*, or *manupulus*, "a handful."
P = *pugillus*, "a handful"; in pharmacy "a quantity which can be taken up between three fingers."
SS or S = *semis*,[3] "half."

There is, however, another class of signs, the origin of which is not so self-evident, and is even yet enveloped in some obscurity. We mean the signs for *ounce*, *drachm*, and *scruple*. Since all of these have been in use among the Romans and Greeks, we deem it useful, first to insert a short table showing the division of the Roman and Greek pounds.

ROMAN WEIGHTS.

Siliqua (0.189 grm.) = Greek **κεράτιον**, keration, "St. John's bread."
3 | Obolus (0.568 grm.).
2 | *Scriptulum* (1.137 grm.) = Greek **γράμμα**, gramma.
2 | Semisextula (2.274 grm.).
2 | *Sextula* (4.548 grm.).
1½ | Sicilicus (6.822 grm.).
1½ | Duella (9.096 grm.).
1½ | Semuncia (13.644 grm.).
2 | *Uncia* (27.288 grm.).
6 | *Semis* (163.73 grm.).
12 | 2 | *As* or *Libra* (327.45 grm.

GREEK WEIGHTS.

Lepton.
7 | Chalkus (0.091 grm.).
8 | Obolus (0.728 grm.).
6 | *Drachma* (4 366 grm.).
8 | *Uncia*, (34.928 grm.).
12½ | *Mina* (436.6 grm.).
60 | Talentum (26.20 kilos.).

It is much easier to give a tabulated view of the Roman than of the Greek weights, owing to the change of value which the latter underwent in the course of time. We know that the old Attic mina, or pound, was equal to 16 Roman ounces, and that later a mina of 12½ Roman ounces existed, so that the former was equal to our avoirdupois pound.

* An account of this will be found in the *Medical Record*, April 15, 1876.

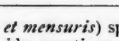
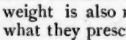
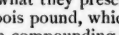
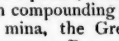
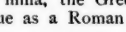
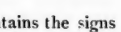
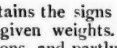
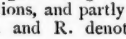
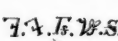
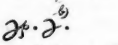
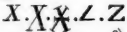
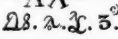
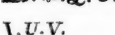
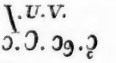
[1] Octarius does not occur in classic writers, but is of later date.

[2] Conchius is the *Greek* **κόγχος**, another form for **κόγχη**, *Lat. concha*. *Sansk. çankha*, "the muscle-shell, conch;" then "a drinking vessel," and hence "a certain measure." *Cochlear*, "the spoon," belongs to the same root.

[3] Semis has two etymologies, each with its own meaning. First, it is simply the same as the *Greek* **ἥμισυ**, or **ἡμι**, "half." Then it is a later contraction for the two *Latin* words *semi-as*, "half an *as* or pound," for which the short term *semis* was employed. The sign for ½ *as* or ½ pound was either S or SS (the first and last s of semis); and this became so identified with the general notion of "one-half," that it finally was used as a sign for the latter in general.

Cleopatra (*De ponderibus et mensuris*) speaks of the two different minæ, but Dioscorides mentions only 16 ounces in a mina; and though this weight is also mentioned by the Greek physicians, it is not what they prescribed by, but perhaps like our own avoirdupois pound, which is used in trade, while Troy weight is used in compounding prescriptions. At the rate of 16 ounces per mina, the Greek ounce would have exactly the same value as a Roman ounce, namely, 27.28 grm.

The appended table contains the signs employed to denote most of the above given weights. These signs are partly taken from inscriptions, and partly from later manuscripts.[4] The letters G. and R. denote "Greek" and "Roman" respectively.

R. Scrupulum.	
G. Gramma.	
R. Denarius.	
G. Drachma.	
R. Sextula.	
R. Sicilicus.	
R. Duella.	
R. Uncia.	
G. Oungia.	
R. Semis.	
R. Libra.	
G. Litra.	
R. Dupondium.	
G. Obolus.	
G. Mina.	
G. Talentum.	
E. Egyptian Tenâ(t).	
E. Egyptian Drachm.	

Scrupulum, the first term of this table, occurs with the variations: scrupulus, scripulus, scriptulus, scriptulum, and scriplum, and is our present word *Scruple*. The last of the signs given for it (*a*), which has been in use for a long period, and which we now employ, derives its origin from the Greek gamma (γ), which is the first letter of the word *gramma*, the Greek equivalent of scruple (compare *a* and *b*).

The next term which we desire to elucidate is the *Drachm*. Among the signs used to denote this we find one in particular (*c*) with which we are familiar. We would, however, be in a dilemma to give a satisfactory account of it, were it not that an unexpected light had been shed on it by the discovery of the above-mentioned Papyros Ebers. In this ancient manuscript, namely, are found a number of recipes, in which the sign represented on the last line of the table (*d*) occurs as a measure (namely, equal to ½ tenât), as well as a weight; in the latter case it appears, from various considerations, to be equal to the Greek drachma, or to nearly our present drachm; and the same sign has come down to us, through Greek and Arabian sources, from the ancient Egyptians.[6] A similar sign forms one of the letters of the hieratic alphabet, being an abbreviation of the hieroglyphic "owl," and stands for "*m*."

Although there is no doubt in our mind about the correctness of this derivation of the drachm sign, we nevertheless give another rather artificial interpretation, which we remember having heard from a noted palæographist, and which at the same time accounts for the use of the letters Ƶ and ζ (*Z*, *z*) as a sign for *drachm*. The Greek Δ (*D*), namely, which is the initial of the word drachmē (**ΔΡΑΧΜΗ**), is found as a sign for this value both in its complete and in a mutilated form (◺; see cut). From this was constructed the sign for the double drachm or didrachmon (**δίδραχμον**), by making a monogram of the two truncated Δ's, thus: (see *Paucton, Métrologie*, p. 95). This was finally contracted to simple Ƶ (*Z*), and in current handwriting the small ζ (*z*) was later substituted for it.

The sign for *Ounce*[7] (ℨ) is nothing else than the Greek letter ξ (*x*). Its origin admits of two explanations. The Greek fluid-ounce, which was called baphion, or oxybaphion (**ὀξυβάφιον, ΟΞΥΒΑΦΙΟΝ**), bore a certain relation to the solid ounce (it held nearly two ounces). It was usually denoted by the two first letters, written from the right to the left, thus: Ξο or ξο. Finally the letter ξ (*x*) may have been chosen alone, to denote the solid ounce. A much more probable explanation, however, is this, that the Greek word for ounce: *uggia*, pronounced *ungia* (**οὐγγία ΟΥΓΓΙΑ**) has itself given rise to the sign. Namely, the two central *g*'s of the word have been joined to a sort of monogram, as will be seen by comparing *e* and *f* in the appended table, which bore a great resemblance to the capital Ξ (*X*), in place of which the smaller letter ξ (*x*) was naturally substituted in current handwriting.

In conclusion we may add, that the sign ℞, which is usually interpreted as "Recipe" (take), is nothing else than the old astrological sign ♃, which denotes Jupiter, whose aid and blessing was to be invoked on the prescription.—CH. RICE.

Correction.

WE have a note from Jacob Dunton & Co., of 917 Market St., Philadelphia, calling our attention to the fact that the pill-press mentioned by us on p. 171 of our last number, is covered by a patent (No 174,790) held by Jacob Dunton. The firm above named alone have the right of manufacture.

BIBLIOGRAPHY.

THE AMERICAN LIBRARY JOURNAL. Official Journal of the American Library Association. Managing Editor, MELVIL DEWEY, 1 Tremont Place, Boston. Publisher, F. Leypoldt, 37 Park Row, New York.

THIS is one of the handsomest monthlies on this side of the Atlantic, and since its commencement, in September last, has contained a series of papers relating to books and libraries of the greatest interest. Twenty-one well known librarians, residing in various parts of the United States, are associated with Mr. Dewey in the editing of the work. One of the questions which has received most discussion in its pages is that of coöperative labor in catalogue making—a subject that deeply concerns all students of science, much of whose time is wasted in searching for authorities. The compilation of an index to fill the gap since the publication of the one by Poole, has also absorbed a great deal of at-

[4] Paucton, in his *Métrologie*, 4° Paris, 1780, page 95, gives a number of these signs, taken from the works of *Gruter* (*Inscriptiones latinæ totius orbis Romani*), *Villalpandus*, *Reinesius*, and *Despon*. See also *Paul. Aegin.* by Fr. Adams, III. p. 626, and the two large works on Greek and Roman Inscriptions (Boeckh's and Mommsen's), published by the Berlin Academy of Sciences.

[5] According to *Rhemmius Fannus*, *De ponderibus et mensuris* 9, the more ancient term was scripulum, in which case it would belong to scribo, "to write," and denote a coin or token upon which something was inscribed. But all the above terms probably belong to the same root as *scrupus*, of which they are the diminutive form, meaning "a *small*, sharp-pointed stone" (used as a weight).

[6] The *name* Drachma is a purely *Greek* word, being derived from **δράττομαι** (**δράσσω**), root **δραχ**, "to grasp, to take a handful," and no doubt originally denoted a domestic measure, like the *Latin* "*manipulus*" or "*pugillus*," which latter is even interpreted by ancient glossographers with "**δρὰξ χειρός**, a grasp of the hand," that is, "a handful."

[7] The word ounce is the *Latin uncia*. This is etymologically related to *unica* (namely, *pars*), in the sense of "a unit." This derivation is confirmed by the fact that in the *Paphic* or *Cypriotic* dialect the closely-related term **ἴυγια** (ingia) is equivalent to the *Greek* **εἷς**, "one." (See Curtius, Gr. Etym. p. 644. Zehetmayr, Lex. etym. p. 275.) Pollux (Onomast. 4,174) calls it a *Sicilian* weight. The *Greek* terms for uncia are **οὐγγία** or **οὐγκία**; according to Photius, also **ὀγκία**.

tention, and the discussion of the methods offered has been very able. The record of recent issues is very well made, and is more full than the one commonly issued by publishing houses. For persons having a taste for literature the subscription price of $5 per annum is but little compared with the value of the work.

DU SEVRAGE. Conseils a ma Fille, aux jeunes Mères et aux Nourices par Le Docteur L. MICHALSKI. Paris: Delahaye & Co. 1876. 8vo, pp. 47.

"AT what period should a child be weaned? How should the child be prepared? Dangers to which infants are peculiarly exposed at the period of weaning. What should be thought of the aliments which are offered for the nourishment of children at the period of weaning? Correspondence of weaning with the phenomena of the primary dentition. Circumstances which may require premature weaning. Is there a choice of seasons for weaning? How should weaning be conducted? Care demanded by the health of the mother after weaning." The above are the titles of the various chapters in the pamphlet.

WINE IN THE DIFFERENT FORMS OF ANÆMIA AND ATONIC GOUT. By M. E. BÉGIN. (Translated from the French.) Paris: Baillière. 1877.

[Recommending the tannic wine of Saint-Raphaël.—*Compagnie du Vin de Saint Raphaël* à Valence (Drome).]

A WORD IN DEFENCE OF SUGAR-COATED PILLS. By J. B. MOORE. Reprint from *Amer. Jour. of Pharm.* 8vo, pp. 22.

[OFFERS a reward of $25 to any chemist, physician, or pharmacist in the United States who will manufacture a pill-coating from the same kind of materials, and in the same proportions, and by the same process usually adopted by our best manufacturers of sugar-coated pills, which will render a sixth-, quarter-, and half-grain morphia pill, or the officinal compound cathartic pill, insoluble and inoperative, and fail of producing their characteristic therapeutic effects, when properly administered, under any physiological conditions of the system, or alimentary canal, in which these same kind of pills *will* display their usual medicinal effects, when freshly made and uncoated.]

DESCRIPTION OF AN IMPROVED SPRAY APPARATUS. By B WILLIS RICHARDSON, F.R.C.S. Reprint from *Dublin Jour. of Med. Sci.* Dublin: Printed for the Author. 1877. [See next number.]

THE SPECIALTY OF DISEASES OF WOMEN. By CLIFTON E. WING, M.D., of Boston. 1877. Read before the Suffolk District Medical Soc.

[HOPES to see Gynæcology as firmly established as its sister specialty, Ophthalmology, *and its practice reserved for those who are qualified for it.*]

BLUE AND RED LIGHT; Or, Light and its Rays as Medicine: Showing, etc., etc. By S. PANCOAST, M.D. Philadelphia: J. M. Stodart & Co. Crown 8vo, pp. 312.

THIS is very much like General Pleasanton's book on Blue Light, "only more so." Its author says (p. 232) that he "fully recognizes this sphere of the physician, and, in recognition of the superior authoritative skill of Nature, has sought first, to show the character and qualities of Nature's sole actor, Light, in its dynamical Objective, and supervisory Subjective aspects. He believes, not theoretically, but as the result of thirty years' earnest study, that Light is the Universal Motor; the Source of Vital Dynamics (therefore of Nerve Force); under, and by authority of God, the Author, Sustainer, and Promoter of Life. Believing, nay *knowing*, this, he cannot doubt that Light, when properly understood, will prove the one universal pathological agent—in fact, Light is the Source of the curative properties of medicines, and why should it not prove proportionately potent when its virtues are directly applied to the diseased system?" We give it up, and feel that a man who has given thirty years' study "to the Kabbala and Kabbalistic literature" is "too many for us." When he gets out his big book—which he says he has some thought of doing—he need not throw away his money by sending such conundrums to us.

PROCEEDINGS AND REPORTS OF THE SANITARY COMMISSION OF THE CITY OF ATLANTA, GA. 1876. Atlanta, Ga. 1877. 8vo, pp. 195.

A VERY thorough report upon the various methods for drainage and the disposal of the refuse (especially the excreta) of the city. The committee, consisting of Messrs. De Give and Stevens, and Dr. S. Taliaferro, report in favor of the adoption of removal of excreta by means of boxes or barrels transported on carts or wagons. Dr. Rauchenberg makes a minority report in favor of removal by means of sewers, in connection with a water supply. The value of the work is much impaired by the imperfect index.

SECOND ANNUAL REPORT of the Inspector and Assayer of Liquors to the Commonwealth of Massachusetts, with Results of the Chemical Analyses of Samples for 1876–77. Boston. 1877.

THE report states that 412 samples of liquors from various parts of the State had been analyzed, of which 276 were found to be of good or fair quality, and the balance, or 33%, were either very inferior or ordinary quality, or were shown to be more or less adulterated [water is considered as an adulterant]. The report represents rather a better state of things than really exists, since dealers took care to furnish a sample of their best. Beers and wines were also examined, and the report contains very interesting and quite comprehensive papers on "Beers and their Adulterations," "Wines and their Adulterations," and "Distilled Spirits and their Adulterations." All of the nine samples of beers from various brewers, which were examined, were absolutely free from cocculus indicus, picric acid, strychnia, or any other substance than hops and malt.

REPORT of the State Board of Pharmacy (Rhode Island) made to the General Assembly, 1877.

THE association established last winter a course of lectures on Practical Pharmacy, the first series having been delivered by Professor Markoe, of Boston. Fourteen persons were granted registration as Pharmacists, and seven as assistants.

ANNUAL CIRCULAR of the Maryland College of Pharmacy. Session of 1877 and 1878. Edwin Eareckson, *Secretary*, Baltimore.

TRANSACTIONS of the State Medical Society of Arkansas, at its Second Annual Session.

THE Association indorse the "Morrison Bill" to abolish the tariff on quinia, and vote to take measures to instruct their Senators and Representatives in Congress accordingly. No papers are published aside from the President's address. *President-elect*, A. N. Carrigan, M.D., Washington, Hempstead Co.; *Secretary*, R. G. Jennings, M.D., Little Rock. The next (3d) meeting will take place on the first Tuesday of May next at Ft. Smith.

ANNUAL REPORT of the Commissioner of Patents for the year 1876. Washington, Government Printing Office, 1877. Roy. 8vo, pp. 445.

THE report shows the magnitude of the business done in this Bureau, and gives two alphabetically arranged lists, one, of the patentees, the other, of articles patented. The total being 959 trade-marks, 402 labels, and 15,595 patents.

ON THE DIAGNOSIS OF URETHRAL STRICTURE OF BULBOUS BOUGIES. By J. WILLIAM WHITE, M.D., etc. Reprint from the *Philadelphia Med. Times* of May 26, 1877.

AN ADDRESS on the Medical Libraries of New York. By SAMUEL PURPLE, M.D., President, New York. Printed for the Academy of Medicine, 1877. 8vo, pap., pp. 26.

REPORTS of the Pennsylvania Hospital for the Insane. By THOMAS S. KIRKBRIDE, M.D., of the Vermont Asylum for the Insane, for the two years ending Aug. 1, 1876; of the Trustees of the Willard Asylum for the Insane; of the Resident Physician (D. R. Burrell, M.D.) of Brigham

Hall, a Hospital for the Insane; and of the American Veterinary Hospital, New York.

ANNOUNCEMENTS of the Kentucky Infirmary for Women and Children, in Louisville; of the Medical College of the Pacific, San Francisco; and of the American Veterinary Hospital.

THE WESTERN REVIEW OF SCIENCE AND INDUSTRY. Edited by THEODORE S. CASE, Kansas City, Mo.

WE have not space to go into an extended review of this new monthly, but will say that it impresses us favorably, and is *well* worth the price of subscription ($2.50 per annum). The number before us contains a good selection of articles under the headings Archæology, Geographical, Chemical, Astronomy, Natural History, Scientific Miscellany, and Editorial Notes.

CATALOGUE OF CHEMICAL, PHARMACEUTICAL AND PHYSICAL APPARATUS, Instruments and Utensils for Sale at the affixed Prices by W. J. ROHRBECK, late J. F. Luhme & Co., 4 Murray St., N. Y. Also LIST OF CHEMICALS, MINERALS, etc., with Prices.

CHEMICAL AND PHARMACEUTICAL DIRECTORY of all the Chemicals and Preparations (Compound Drugs) now in General Use in the Drug Trade. Their Names and Synonymes Alphabetically arranged. In three parts. I. English, Latin, and German. II. Latin, German, and English. III. German, Latin, and English. By JOHN RUDOLPHY. 8vo. Chicago, 1877, pp. 407.

THE author, whose smaller pharmaceutical directory is well known, has elaborated the present work chiefly with an eye to chemical and pharmaceutical preparations, rather than to crude drugs; in consequence of this plan such terms as Cinchona, Senna, Acacia are not specially entered, but will be found under the head of their various preparations. Although we do not quite agree with the author in the usefulness of giving a full list of fluid extracts and of all possible tinctures, which could have equally well been indicated by a few examples, we nevertheless must acknowledge that the work is a handy reference for the practical pharmacist.

The terminology and grammar of many terms is, however, not as satisfactory as it might be desired, sharing this defect with most other similar works.

CYCLOPÆDIA OF THE PRACTICE OF MEDICINE. Edited by DR. H. VON ZIEMSSEN, Professor of Clinical Medicine in Munich, Bavaria. ALBERT H. BUCK, M.D., New York, Editor of the American Edition. New York: Wm. Wood & Co.

THREE additional volumes of this valuable work have come to hand since our last notice, viz.: Vol. VI., Vol. VII., and Vol. XII. Their contents are as follows: Vol. VI. (1,014 pages): Diseases of the Circulatory System, together with the chapters on Whooping-Cough, Diseases of the Lips and Cavity of the Mouth, and Diseases of the Soft Palate. The various sections and authors being as follows: Introduction to Diseases of the Heart, by Prof. Sigmund Rosenstein, of Leyden; Changes in Position of the Heart and Diseases of the Heart and Substance, by Prof. Leopold Schroetter, of Vienna; Congenital Diseases of the Heart, by Prof. Lebert, of Vevay; Diseases of the Arteries, Veins and Lymphatics, by Prof. Heinrich Quincke, of Berne; Diseases of the Pericardium, by Dr. Joseph Bauer, of Munich; Whooping-Cough, by Dr. A. Steffen, of Stettin; Diseases of the Lips and Cavity of the Mouth, by Prof. Alfred Vogel, of Dorpat; and Diseases of the Soft Palate, by Prof. Ernst Wagner, of Leipzig.

VOL. VII. (1,046 pages):—Diseases of the Naso-Pharyngeal Cavity and Pharynx, by Prof. Hermann Wendt, of Leipzig; Diseases of the Stomach and Intestines, by Prof. Wilhelm O. Leube, of Jena; Constrictions, Occlusions, and Displacements of Intestines, by Dr. O. Leichtenstern, of Tübingen; Intestinal Parasites, by Prof. Arnold Heller, of Kiel; Diseases of the Larynx, by Prof. H. von Zeimssen, of Munich, and Spasm of the Glottis, by Dr. A. Steffen, of Stettin.

VOL. XII. (902 pages):—Anæmia, Hyperæmia, Hemorrhage, Thrombosis and Embolism of the Brain, by Prof. H. Nothnagel, of Jena; Tumors of the Brain and its Membranes, by Prof. F. Obernier, of Bonn; Syphilis of the Brain and Nervous System, by Prof. O. Heubner, of Leipzig; Acute and Chronic Inflammations of the Brain and its Membranes, by Prof. G. Huguenin, of Zürich; Hypertrophy and Atrophy of the Brain, by Prof. E. Hitzig, of Zürich.

The reputation which this cyclopædia has attained needs no further comment. It is, without question, the most complete undertaking of the sort in our language, and is particularly strong in its chapters on etiology and pathology. The translations of these three volumes have been made by some of the most able scholars in this country and Great Britain, who are also especially familiar with the subjects undertaken.

NEW BOOKS.

Foussard (Dr.). De l'empoisonnement par le Nicotine et le Tabac. 8vo. V. A. Delahaye & Cie. Paris. 2 fr.

Lauve (P.). Ce l'emploi de la méthode de Brand et du bain tiède dans le traitement de la Fièvre Typhoïde. 8vo. G. Masson. Paris. 1.50 fr.

Société de pharmacie de Paris. Rapport sur les médicaments nouveaux par une commission composée de MM. Baudrimont, Gobley, Marais, Schaeffel, et A. Petit. 8vo, pp. 68. G. Masson. Paris. 1.25 fr.

Gubler (A.). Leçons de Thérapeutique faites à la Faculté de médecine de Paris. 8vo. V. A. Delahaye & Cie. Paris. 10 fr.

Hoppe-Seyler (F.). Traité d'analyse chimique appliquée à la physiologie et à la pathologie. Traduit de l'allemand, sur la quatrième édition, et annoté par F. Schlagdenhauffen, Prof. à l'école supérior de pharmacie de Nancy. qr. 8vo. pp. 550, avec figures intercalées dans le texte. F. Savy. Paris. 10 fr.

Trousseau & Pidoux. Traité de Thérapeutique et de Matière Médicale. 9th Ed. Revised and enlarged by M. Constantin Paul. 2 vols. Paris. Asselin. 27 fr.

Hecquet. Recherches sur l'emploi de sesquibromure de Fer contre la Spermatorrhée. 12mo. Paris. V. A. Delahaye & Cie. 2 fr.

Atgier. Études hygieniques sur les propriétés organoleptiques des Eaux Potables. 8vo. Paris. V. A. Delahaye & Cie. 1.50 fr.

Annuaire de Thérapeutique, de Matière Médicale, de Pharmacie et d'Hygiène pour 1877. By MM. A. Bouchardat and J. Bouchardat. 37th year. 32mo. Paris. Baillière. 1.50 fr.

Esbach. De l'Analyseur Gazometrique et du Baroscope correcteur à colonne mercurielle; Leur application au dosage de l'urée. 8vo, pp. 20. Paris. 1 fr. [See page 140.]

Hunt (Ezra M., A.M., M.D.) Alcohol as Food and Medicine. 12mo, pp. 137. 60c. Nat. Temp. Soc.

Putnam (J. Pickering). The Metric System of Weights and Measures. 2d Ed. Rev. and enl., with charts. 8vo, pp. 70, 13. $1. Am. Metric Bureau.

Wood (G. B. and H. C.). United States Dispensatory. 14th Ed. Shp. $10. Lippincott.

Hayes (J.). Electro-Thermal Bath. $1.25. Jansen, McC. & Co.

Snivey (J. H.). Tables for Systematic Qualitative Chemical Analysis. $1. Van Nostrand.

Thorne (O.). Structural and Physiological Botany. $2.25. Wiley.

Vacher (A.). Primer of Chemistry. 50c. Lindsay & Blakiston.

Stillé (Alfred, M.D., and Maisch, John). The National Dispensatory. Embracing the Chemistry, Botany, Materia Medica, Pharmacy, Pharmaco-dynamics, and Therapeutics of the Pharmacopœias of the U. S. and Great Britain. Announced by H. C. Lea.

Parsons (Chas., M.D.). Sea Air and Sea Bathing. 12mo, pp. 119. By Lindsay & Blakiston.

Roussel (Dr.). Transfusion of Human Blood. Trans. by C. Guinness. 8vo. Announced by Lindsay & Blakiston.

Hughes (R.). A Manual of Therapeutics, according to the Method of Hahnemann. 2d ed.; mainly rewritten.

Part I., General Diseases: Diseases of the Nervous System. Post 8vo, pp. 280. Turner. 6*s.*

——— On the Sources of the Homeopathic Materia Medica. 8vo. Turner. 2*s.*

Semple (C. E. Armand). Aids to Chemistry. Especially designed for Students preparing for Examinations. Part I., Inorganic: Oxygen to the Metalloids, inclusive, 12mo, sd., pp. 60. Baillière. 1*s.*

Shelly (C. E.). Short Notes on Chemistry. Part I., Metalloids. 2d ed., 8vo., sd. Macmillan. 2*s.*

Tibbits (H.). A Handbook of Medical and Surgical Electricity. 2d ed., rev. and enl., with 95 illustr. 8vo, pp. 260. Churchill. 9*s.*

M'Glashan (D.). Tables of Spirit Proofs. Checked by J. Brown. Fcp. folio, half-bound. Blackwood. 52*s.* 6*d.*

Remsen (I.). Principles of Theoretical Chemistry, with special reference to the Constitution of Chemical Compounds. Post 8vo, pp. 220. Baillière. 6*s.*

Auerbach (G.). Anthracen: Its Constitution, Properties, Manufacture, and Derivatives, including Artificial Alizarin, Anthrapurpurin, etc, with their Application in Dyeing and Printing. Trans. and ed. by Wm. Crookes, F.R.S. 8vo, pp. 250, cloth. Henry C. Baird & Co. $5.

Williams (Dr.). The Influence of Climate in the Prevention and Treatment of Pulmonary Consumption. 8vo. Announced by Lindsay & B.

Peckham (S. F.). Elementary Chemistry. 12mo, pp. 254. Morton.

Auerbach (G.). Anthracen. $5. Baird.

Oehme (F. G.). Therapeutics of Diphtheritis. 2d ed., paper, 60*c.* Boericke & Tafel.

TRADE NOTES.

Two New Mineral Waters.

THE Apollinaris Co., Limited, of London, have recently established an agency in this city for the sale of two newly introduced mineral waters of exceptional excellence, viz.: the water of the Apollinaris Spring, in the valley of the Ahr, near Neuenahr, in Rhenish Prussia, and the Hunyadi János aperient water from Buda-Pesth.

Those who have not yet used the former of these waters should not let the warm season pass without a trial of it, for it is by all means the most agreeable of the alkaline carbonated waters used as beverages. In England, where for four years past it has been rapidly increasing in favor, it is spoken of as the "queen of mineral waters."

In comparing an analysis of the Apollinaris made by Professor Bischof, of Bonn, with that of the Selters Spring, which it most nearly resembles, it will be noticed that the alkaline carbonates are present most largely in the former, while the chloride of sodium is less in proportion than in the Selters. This accounts in part for the "smoothness" which it possesses, and which is a marked characteristic:

	Apollinaris. (*Parts per* 10,000.)	Selters. (*Grains in one pint.*)
Sodium carbonate	12.57	6.778
Magnesium "	4.42	1.516
Calcium "	0.59	1.852
Sodium chloride	4.66	17.228
Sodium sulphate	3.00	0.261
Sodium phosphate	Traces.	Traces.
Potassium salts	"	0.289
Iron & aluminum oxide.	0.20	.....
Iron carbonate	....	0.079
Silicic acid	0.08	.....
	Gas.	
	Cu. In.	*Cu. In.*
Carbonic acid, free and combined	35.83	30.000

These are the most remarkable differences to be distinguished in a comparison of the tables, but in all mineral waters there are peculiarities which cannot be expressed in this way and which can only be understood after actual use. As supplied in bottles the water is strongly effervescent. This is due to the fact that the natural gas is collected at the spring, and, by machinery, is forced into the vessels containing the water, so that it receives a double charge. The amount of gas contained is such that, after using part of the contents the bottle may be corked and laid away upon its side, and 24 hours later will effervesce when again opened. Aside from any medicinal action the water may have, it chiefly excels as a beverage, and, owing to its softness and peculiar flavor, it forms an admirable mixture with liquors and wines, especially with hock and claret. With hot milk it is also said to go well in the morning, and with fruit syrups it excels the ordinary carbonated water As a medicine its virtues rest principally in its alkaline character, and it is well adapted to render service in some forms of gout and indigestion. The indorsement which the Apollinaris has received in England is unqualified, and we have no doubt that its success on this side of the ocean will be equally great. We certainly have met with nothing comparable to it.

The other water to which we have referred—the HUNYADI JÁNOS—is of quite a different character. In its composition it resembles the Friedrichshalle and Püllna "bitter waters." Nothing can describe better the general character of its contents than the following table:

Proportionate quantities in 7,680 *grains.*

	Hunyadi.	Friedrichshalle.	Püllna.
Magnesium sulph.	137.98	39 55	93.08
Sodium "	128.97	46.51	123 80
Potassium "	1.67	1.52	4.80
Calcium "	....	10.34	2.60
Sodium chloride	11.54	61.10	.....
Magnesium "	...	30.25	19.66
Sodium carbonate	13.20	.....	.....
Magnesium "	....	3.99	6.40
Calcium "	6.04	0.11	0.77
Carbonic acid, free and half-combined.	8.02	5.32	latent.

It differs mainly in its larger quantity of sulphates of sodium and magnesium, and the presence of a considerable quantity of carbonate of sodium.

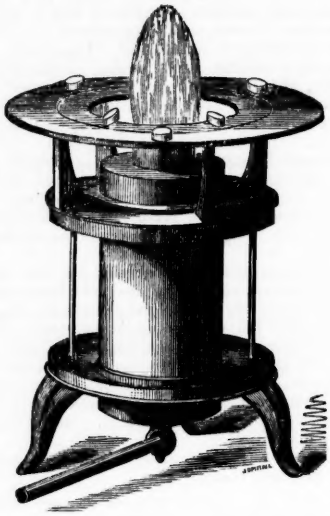
The taste of the Hunyadi János is decidedly the least disagreeable of either of these purgative waters, which is probably owing to the small proportion of chlorides. Magnesium chloride, the salt which is said to render sea water so intensely nauseating, exists in it to a very slight degree, if at all, while sodium chloride is in small proportion compared with the quantity in the Friedrichshalle water. A dose of one-half to one wineglassful is quite sufficient in all but extreme cases, and when warmed either by placing the bottle in warm water, or by adding a little warm water to the quantity taken, it makes one of the pleasantest forms in which Epsom and Glauber's salts can be taken. It has received the indorsement in this country of Drs. James R. Wood, Lewis A. Sayre, B. Fordyce Barker, Wm. A. Hammond, Alfred L. Loomis, and J. Marion Sims, and has a long list of supporters in Europe. Frederick DeBarry & Co., of 41 and 43 Warren St., are the agents for both of these waters in the United States and Canada. See NEW REM., v., p. 104.

Fischer's Filter-Pumps.

ON page 42 of our February number we gave a description and illustration of a new and very compact filter-pump, provided with manometer. We have had one of these in constant use for the last three months, and find it to be so extremely useful and reliable, that we would not do without it at any price. As it is entirely constructed of metal, it is not liable to get broken, like a Bunsen's glass pump, and occupies only a space of a few cubic inches. The manufacturers have since added an improvement to it, namely, a check valve, which prevents the access of the water in the pumps to the exhausted space, on shutting off the pressure. Messrs. McKesson & Robbins, N. Y., will supply them on demand.

An Improved Gas-Stove.

We have long been on the lookout for a really good gas-stove, which would utilize the gas to its full extent, give a pure blue flame without smoke, and therefore furnish the



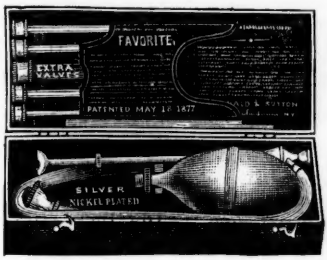
greatest amount of heat obtainable from the supply of gas. We believe we have at last found this in a gas heater made by John Q. Birkey & Co., of Philadelphia (245 South Sixth Street), a cut of which we append, and which gives complete satisfaction. McKesson & Robbins are the N. Y. agents.

The Improved Fountain Syringe,

Manufactured by the Empire Syringe Company, 44 Cortlandt St., of which William Platt is the general agent, has been known to the profession and trade for some time, but has recently undergone some improvements, which entitle it to more favorable notice than it has yet received, and that is already very considerable. First, the ring by which the bag is hung is made of cast metal, and is stronger and larger than before, the small ring at right angles to it being of the same piece. But the chief feature is the pinch-cock for regulating the flow. Heretofore the compression-cock used was liable to cut the tube, and another variety, in which a compression-cock of metal was introduced in the course of the tube, was extremely liable to get out of order and to become stopped by foreign substances. The one now used, and which is a recent invention, obviates all these troubles, and may also be of use as a pinch-cock for other purposes. These syringes are made of good material, and have the advantage of avoiding the necessity for exertion, the force of gravity being sufficient to cause the flow.

Smith & Pitkin's Saccharated Pepsin.

We have received a circular from our friends Dr. Wm. Manlius Smith and Mr. O. C. Pitkin, of Syracuse, N. Y., setting forth the mode of preparation and properties of saccharated pepsin, and appending the testimonials of prominent physicians as to the reliability of the articles manufactured by them. At a meeting of the Onondaga County Medical Society a report was read by Dr. Kendall, of Baldwinsville, giving the results of comparative tests made with 15 samples of saccharated pepsin of the market, among which, that made by Smith & Pitkin was found to dissolve the largest amount of albumen. J. Milhau's Sons, 183 Broadway, are the wholesale agents in this city.



The "Favorite" Syringe.

Macdonald & Sutton, of 299 Broadway, have for sale a syringe which presents certain characteristic and valuable features, viz.: the metal parts are plated with nickel; the suction tube is made of metal, and is long enough to permit fluids to be drawn from deep vessels (such as pitchers); it is supplied with an extra set of valves; it has a larger variety of nozzles than are supplied with most syringes; a sliding lid, in the cover, confines the nozzles in their places, and prevents their rattling when carried; and the case is a nicely polished black walnut box. The price does not differ much from that of other good syringes, and the manufacturers state that they have sold to the trade nearly 11,000 of them in six weeks.

Dr. N. Gerber's Milk Food.

Dr. N. Gerber, of Thun, Switzerland, sent to the International Exhibition of 1876 his new preparation of wheat flour and milk, for which he was awarded a medal. He is now introducing it for use in the United States, through Messrs. Roethlisberger & Gerber, of 144 Chambers St., and sends us a sample. He claims for it that it contains a smaller proportion of starch, and a larger proportion of milk than other articles commonly employed in feeding infants artificially, and submits a number of letters from German, Swiss, and Italian physicians, who have advised its use for both healthy and sick children, with the best results. Dr. Arthur Hill Hassall, of London, and G. B. Schmidt, of Amsterdam, give the following analyses of the preparation:

	Hassall. April 27, 1876.	Schmidt. August 8, 1876.
Hygroscopic water.....	6.10%	4.30%
Carbo-hydrates (sugar, dextrine and amyline)	75.87%	76.85%
Azotic substances (albuminates.....	11.58%	13.20%
Greasy matters.....	4.60%	4.20%
Salifiable "	1.85%	1.20%
	100.00%	99.75%

To which Dr. Hassall adds:

"The azotic substances contain 2.83% nitrogen and the salifiable matters 0.51% phosphoric acid.

"The above results prove this food partly to consist of condensed milk, containing all the elements of complete alimentation, viz.: carbo-hydrates, albuminates, and salifiable matters in such proportions as to make them appear proper for the nourishment of sucklings and babies, and the preparation may therefore be warmly recommended.

"The amount of azotic substances and phosphoric acid is considerable in this food."

The food is put up in tin boxes, with proper label and directions for use, and is in the shape of a fine, dry powder, with a taste not disagreeable.

There is probably no food which will suit all children, unless it be the one nature provides, and we have at times been obliged to make a number of experiments before finding the appropriate one. The food offered by Dr. Gerber claims to be compounded in such a way as to approach, as near as may be, to the natural one, and is therefore worthy of a careful trial.

ANALYSES OF PHARMACEUTICAL CHEMICALS AND PREPARATIONS.

Eighteen samples were furnished, of which five analyses were reported.

The winner of the July prize is MR. JOHN E. GREGORY, *of Ann Arbor, Mich.* ("TOM, DICK, AND HARRY.")

We are now prepared to send samples for the September prize to such as may desire to compete for it. The substance is pharmacopœial and contains adulterants which may occur in process of manufacture. Answers must be received before the 20th of August, and be accompanied by a sealed envelope containing the name of the writer, and designated by a device or motto, which is also to be placed, instead of the writer's name, upon the report of the analysis.

THE first sample sent for analysis contained dry commercial white lead, and, as an adulterant, nearly twenty per cent. of native sulphate of calcium (gypsum), which contained a trace of iron.

The great importance of white lead as a paint has led to a sharp competition between manufacturers in regard to price, consequently, much that is sold for "strictly pure" white lead is greatly adulterated. Analyses of a large number of samples prove that a majority of them contain either barium sulphate (heavy spar), calcium sulphate (gypsum), or calcium carbonate (chalk). Many white lead paints contain, also, more or less oxide of zinc, but this is not objectionable, as zinc-white paints do not blacken, as do lead paints, by exposure to sulphuretted gases.

The composition of white lead is usually given as PbH_2O_2 $2PbCO_3$, but the conditions of manufacture cause the formula to vary somewhat. For information regarding the methods of manufacture, consult any good text-book on chemistry or an encyclopædia.

The chemical examination of dry white lead is quite simple. It should dissolve easily and completely, with effervescence, in dilute nitric acid. It is well to examine this solution for calcium, after removing all the lead by hydrosulphuric acid. If calcium is found, the paint contains carbonate of calcium (chalk). If the paint does not all dissolve in nitric acid, the residue probably contains sulphate of barium, sulphate of calcium, or silicate of aluminum (white earth). Fuse this residue with carbonate of sodium, on porcelain; pulverize the fused mass and boil it with water. Test this water solution for sulphuric and silicic acids. The residue still remaining may be dissolved in dilute nitric acid and tested for aluminum, calcium, barium, etc.

When sulphate of calcium is the adulterant, boiling it with nitric acid, in presence of nitrate of lead, causes the formation of some *sulphate of lead*, which appears in the insoluble residue. This is because sulphate of lead is less soluble in dilute nitric acid than is sulphate of calcium. This will explain why several of the contestants reported sulphate of lead as an adulterant of the carbonate.

In reporting adulterations it must be borne in mind that an expensive salt is not likely to be added to a cheaper one.

White-lead ground in oils is easily examined for impurities. To a small amount of the paint, in a beaker or evaporating dish, add hydrochloric acid, heat to boiling, and add, from time to time, small fragments of potassium chlorate, until all the oil is decomposed. Expel excess of acid, and fuse the residue with sodium carbonate. Treat with water, and then with acids. Another good way is to fuse a small amount of the paint with sodium carbonate and potassium nitrate. The oil is completely destroyed in this way.

A few words in regard to the best way of making and reporting analyses may not be inappropriate. In the first place be sure that all articles of glassware, etc., are *perfectly clean* before using. Have blank-book or paper, and note color, odor, weight, whether crystalline or amorphous, etc.

Give blowpipe reactions, behavior in open and closed tubes when heated, color of hot and cold beads with borax and microcosmic salt. Next give solubilities, in water and acids. If these fail to dissolve the substance, fuse it on porcelain, with carbonate of sodium, and analyze the fused mass. Next give the group reactions, and special confirmatory reactions, and, if possible, the equations in explanation.

Lastly, state your conclusions as to what the substance is, and whether or not it is adulterated. Be brief, and look out for your *spelling*.

The prize for the best analysis has been awarded to "Tom, Dick, and Harry."

"MONAS."—Your work was correct, and well stated, but you failed to report the calcium sulphate in your conclusions.

"POTTINGAR."—Your proof of aluminum silicate is not sufficient.

"KALOS."—You do not *prove* the presence of barium.

"CICERO."—See the last sentence in the article this month.

"TOM, DICK, AND HARRY."—Try to condense your reports a little. I find no mistakes in work or statements.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

Parchment-Paper for Dialysing (R. W. & Co., Baltimore).—Most of the parchment-paper in this market, and probably all made in this country at the present time, is unsuitable for dialysing, as no special care is taken to select paper free from minute holes. The greatest care must be taken to select paper which shows no perceptible perforations under a magnifying power of at least 80 diameters. If you desire a really good paper for dialysing, we are in the position of recommending to you the *best*, which is made by R. Rube & Co., in Weende, near Göttingen, Germany. See article in August number.

Stove-blacking (G. J., Rockville, Iowa).—An excellent preparation, which has only lately been recommended, is the following: Mix a syrupy solution of silicate of sodium or potassium with lampblack, apply a thin and even coat of this mixture upon the stove, or stove-pipe, and allow it to dry, which requires about 24 hours. Finely powdered graphite is then mixed with thin mucilage, and applied in the same manner; before it has become entirely dry, however, it is brushed in the usual manner, to produce a gloss.

Bleached Olive-Oil (J. McM., Clifton, Wis.).—Watchmakers prefer to use for oiling the delicate works of watches and clocks olive oil, which has been bleached and deprived of its more solid fats. This is obtained by filling bottles half full of good olive oil, adding 92 per cent. alcohol until the bottles are full, and then exposing them for several weeks to the sunlight, under occasional shaking. This causes the oil to lose nearly all its color. The alcoholic solution is then removed, and the oil exposed for a short time in shallow layers to the air, so as to expel the remainder of the alcohol. Prepared in this manner the oil is perfectly bland and free from every trace of acid.

Fumigating Paper (O. F., Jr., Carbondale, Pa.).—Mix in a small mortar 15 grains each of powdered nutmegs, oil of cinnamon, and liquid storax, 10 grains of powdered benzoin, and 5 grains each of musk and ambergris, add drop by drop sufficient alcohol to produce a liquid mass, which is applied by means of a brush upon one side of sheets of fine paper, which are preserved between layers of oil- or wax-paper. For use, a piece of the perfumed paper is held over a flame so as to emit fumes, but *without burning;* it emits a very agreeable odor, and may be used several times.

Pill Coating (Z. M., Whitehall, Mich.).—A hard, white and uniform coat of sugar can be given to pills only by using appropriate apparatus, the essential conditions being to have the pills thoroughly dry, and to keep them in brisk, uniform revolution in an appropriate vessel while baking the coating over a fire. You may get the necessary information from Mr. A. F. W. Neynaber (see advertising pages), whose pamphlet on the subject he will mail to you on receipt of $1.00.

Lemonade (A. T. W., Brandon, Vt.).—We do not remember having printed such a formula as you mention. There is no necessity for giving any special directions, the individual taste being a sufficient guide for its preparation. Citric or phosphoric acids are to be preferred to any other.

Oxymel Scillæ (G. O. H., Yorkville, Ill.).—The misspelled term you ask us about is meant for Oxymel Scillæ, of the Brit. Pharm., the formula for which you will find in the Dispensatory under the heading "Mellita."

Tasteless Tincture of Chloride of Iron (A. S., Harrisburg, Pa.).—You may obtain this from Mr. J. Creuse, 52 Maiden Lane, N. Y., who first originated it. Prof. Jos. P. Remington, of Philadelphia, has also published a formula for its preparation, which is as follows:

Solution of chloride of iron, U. S. Ph.	1 fl. oz.
Citric acid	544 grs.
Sodium carbonate	1000 " or q. s.
Water, distilled	1 fl. oz.
Alcohol	q. s.

Dissolve the citric acid in the distilled water, and heat to the boiling point, gradually adding the sodium carbonate until the acid is saturated. Mix this with the iron solution, which will now assume a beautiful green color, and make up the measure to 4 fl. oz. with alcohol.

Curare (W. H. B., Nashville, Tenn.).—Sir Walter Raleigh was the first who brought to Europe a poisonous substance called "Ourari," which he stated was used by the Indians of Guiana for poisoning their arrow-heads. It is next mentioned in the Travels of the Fathers d'Acunja and d'Artieda, who visited the Amazon River in 1693. According to Silvator Gilii the *ourari*, which is also called *woorara, woorari, wourali*, and *curare*, is prepared from a fruit called "piredo." J. J. Hartsink relates that the natives poison their arrows with the fruit of "cururu or pison," or else with the juice of a tree called "pongoulay." Bancroft, in his "Natural History of Guiana," states that "the poison is derived from a climbing plant called *nibbees* by the Indians; the Accawan Indians prepare it from 6 parts of the woorara root, 2 parts of worracobbacoura bark, and 1 part each of couranabi, baketi, and hatchybaly root. They are scraped, boiled for 15 minutes in water, the liquid separated and evaporated to a thick extract, into which small pieces of cokarito-wood are placed, around which the reddish-brown substance coagulates." Alexander von Humboldt, Waterton, v. Martius, and R. Schomburgk have also described its preparation, but they all differ somewhat, and only the latter has recognized one of the chief ingredients, which he ascertained to be a strychnos, and named *Strychnos toxifera*. There is, however, some doubt as to the correctness of this statement. See also the article on woorari in the Dispensatory (Appendix).

Origin of the Symbols ℥, ℨ, ℈ (K., Barnesville, O., and O. G. M., N. Y.)—The answer to your inquiry will be found at length on page 212.

Liquidambar Styraciflua (D. R. M., Holland, Mich.).—If you desire to extract the useful medicinal constituents from sweet gum bark, and your object is to obtain them in the smallest possible dose, the best plan will be to prepare a fluid extract, which may be made as follows: Take of sweet gum bark, in moderately fine powder, 16 troy ounces, alcohol 90 per cent., q. s. Moisten the powder with alcohol, pack it into a conical percolator, and pour 2 pints of alcohol upon it. As soon as the liquid begins to drop from the neck of the percolator, close it with a cork, and let it stand for a few days. Then remove the cork, and collect 14 fl. oz. of percolate, which set aside. Continue the percolation until the bark is exhausted, concentrate this second portion to 2 fl. oz., and add the latter to the reserved portion. Filter, if necessary. One minim represents one grain of the bark.

Red Color for Fruit Syrups (T. L., Perryville, Mo.).—A harmless red coloring matter for fruit syrups of an acid reaction is best obtained from poke-berries, the fruit of *Phytolacca decandra*. The berries should be as fresh as possible, or if dried, should not be too much shrivelled. They are crushed in water, alcohol is added, the liquid portion filtered off, and the filtrate, which has a dark bluish-red tint, is mixed with a *yellow* coloring matter (best, solution of turmeric), until a diluted sample has a pure red color. The yellow, namely, converts the blue portion of the coloring matter into *green;* and the latter color is extinguished by the presence of *red*, which is in excess.

White or Purified Gutta Percha (A——, Baltimore, Md.).—Pure gutta percha, suitable for teeth filling, can be had of S. S. White, of Chestnut Street, corner Twelfth, Philadelphia, or 767 Broadway, N. Y.

Bisulphite of Lime (J. Sherbrooke, P. Q.).—Your inquiry, in which you desire a formula for preparing "bisulph. of lime," has been interpreted by us to refer to the bisulphite. Presuming this to be correct, the simplest way will be to suspend 10 parts of chalk (calcium carbonate) in 100 parts of water, to pass a current of sulphurous acid gas through the mixture, and when the solution is saturated with the gas, and strongly smells of it, to cautiously evaporate it until it separates in small crystals. It is, however, preferable to keep it in solution, as the evaporation of the latter is liable to convert it into a simple sulphite (calcium sulphite, $CaSO_3$). If you desire to make this on the large scale, you will have to adopt a more economical process for making sulphurous acid than the usual one of generating it in a flask or retort from charcoal and sulphuric acid.

Hydrobromic Acid Cough Mixture.—B. C. A., of Watertown, Conn., asks the dose of hydrobromic acid cough mixture, formula for which is given on page 30. The total quantity named may be taken.

Improved Eye-Glasses.—We have a number of queries relating to the eye-glasses mentioned by us on page 119 of the April number, and refer our correspondents to the inventor, Mr. Frank P. Innarone, of Washington, D. C., who is now prepared to respond to queries regarding them

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Proposed Medical Department of Cornell University.—At the recent annual meeting of the Trustees of Cornell University, a proposition to establish a medical department of the university in New York City was referred to the Executive Committee.

The Harvard Summer Schools of Botany and Chemistry have twenty female students in attendance.

NEW PATENTS AND LAWS.

[We will furnish gratis, to subscribers, any information relating to new patents which can be obtained from the Official Gazette of the Patent Office; and for 50c. will give copies of the drawings of such as are illustrated. Electrotypes of the illustrations contained in NEW REMEDIES *will be furnished for 50c. per square inch.*

TRADE-MARKS REGISTERED IN U. S. PATENT OFFICE.

May 8th.

Mineral Waters.

4,619. Saratoga Vichy Spring Co., Saratoga Springs, N. Y. A monogram composed of the letters "V. S." and the words "The Saratoga."

Miscellaneous.

1,616. Wm. L. Teter, Philadelphia, Pa., assignor to James H. Platt, Jr., Va., and Chas. P. Ramsdell, Petersburg, Va. "A red color applied to Lamp-oil."

May 15th.

Medical Compounds.

4,633. Catharine Sawyer, Rockland, Me. The words "Miss Sawyer."

4,640. Zuricalday & Arguimbau, New York, N. Y. (Liquorice Paste). "A horizontially elongated diamond, with a bali or circle on the right angle, and another ball or circle on the left angle thereof. The word 'Pilar' is inserted in the diamond, the letter 'Z' in the left ball or circle, and the letter 'A' in the right ball or circle."

4,642. Geo. C. Barclay, Brooklyn, N. Y. The figure of a North American Indian, used in connection with the words "Barry's Pain Relief."

4,643. Isabella Dunlop and Ellen M. Doubleday, Brooklyn, N. Y. The word-symbol "Daisy," used in connection with the word "Cream." (Specific for Skin-diseases.)

4,653. George Pierce & Co., Boston, Mass. The name "Dr. Geo. Pierce's," and the portrait of the late Dr. Geo. Pierce, used in connection with the words "Indian Restorative Bitters."

4,655. Trommer Extract of Malt Company, Fremont, Ohio. "The words 'Improved Trommer's.' The figure of Ceres inclosed in the wreath of barley, and the Latin words 'Ceres ubere pleno nutrit fovetque infantes.'"

Miscellaneous.

4,628. Frederick Hoffmann, Jersey City Heights, N. J. "The designation 'Littlewood & Co.'s,' and the figure of a crown; the former in a red field or stripe above the crown." [Washing-crystal.]

4,629. The Same. The designation "Hoffmann & Co.'s." The balance as above.

4,649. Howard & Brewster, Unadilla and New York, N.Y. "The words 'Howard's Magnetic,' used in connection with the words 'Shaving-soap.'"

4,652. Macdonald & Sutton, New York, N.Y. "The word-symbol 'Favorite.'" [Rubber syringes. See "Trade-Notes."]

May 22d.

Medical Preparations.

4,662. Edmund J. Bramhall, Jersey City, N. J. "The female figure used in connection with words 'Dr. Harris' Corn and Bunion Cure.'"

4,663. Dr. A. W. Chase, Son & Co., Toledo, Ohio. A druggist's mortar and pestle, and the letter "C" ornamented with foliated work.

4,668. Augustus Kiefer, Indianapolis, Ind. "The monogram 'J H. B.,' used in connection with the words 'Expectorant Syrup.'"

4,679. John F. Oates & Co., Providence, R.I. "The word-symbol 'Corsican Butter,' used in connection with the words 'for the piles.'"

Miscellaneous.

4,675. Emile Meyer & Co., Paris, France. "The representation of a basket of flowers, and the words 'a la corbeille fleurie' placed on the inside of a ring or circle, and the words 'Ed. Pinaud, Paris,' placed in a space formed between this inner and an outer ring or circle."

4,683. William & Patrick Thompson, New York, N. Y., and Dublin, Ireland. "The word-symbol 'Prune-Wine.'"

May 29th.

Medicinal Preparations.

4,685. Silas E. Ashley, New Bedford, Mass. The initials "S. E. A."

4,690. William M. Giles & Co., New York, N. Y. The representation of the griffin, used in connection with the words "Giles' Iodide of Ammonia Liniment."

Soaps.

4,689. Joseph Biechele, Canton, Ohio. The letters "A B C."

4,692. Chas. F. Kopitzsoh & Son, Pottsville., Pa. The letters "C. F. K. & Son," arranged as a monogram.

LABELS.

May 15th.

1,057. "The K. Imperial Viennese Purgative Blood Purifying Specifics," Caroline Biedenfeld, New York, N. Y.

1,058. "For the Hair." Anna Connelly, New York, N. Y.

1,059. "Notice," Dundas Dick, New York, N Y.

1,060. "Chemical Spirit Gas." C. E. Flagg, Cleveland, Ohio.

1,062. "King's Good Samaritan Cough Syrup." Geo. W. King, Wilmington, Del.

1,063. "Sweet Cathartin." Herman Schroeder, Quincy, Ill.

May 22d.

1,065. "Steele's Pain Eradicator." Cram & Brigham, San Francisco, Cal.

1,066. "Fairbrother's Venetian Ointment and Emolient Salve." Helen F. Fairbrother, New Bedford, Mass.

1,067. "Camphorated Tar Paper." Robert Lautenback, Baltimore, Md.

1,068. "Wyeth's Dialysed Iron." John Wyeth & Brother, Philadelphia, Pa.

1,069. "Physician's Sample, Wyeth's Dialysed Iron." The same.

1,071. "Mead's Infallible Pile Cure." Henry Moore, Orange, N. J.

1,072. "Wright's Cod-Liver Oil and Cream of Tar." Thos. D. Toy & Co., Norfolk, Va.

May 29th.

1,073. "Collar & Matthew's $1.00 Catarrh Cure." Alexander Collar and Henry J. Matthews, Wayne, Mich.

1,074. "Dr. Limerick's Hog-Cholera Cure and Preventive." Marshall, Lamar & Co., Aurora, Ind.

1,076. "Schermerhorn's Tonic Extract of Wine." George W. Schermerhorn, Philadelphia, Pa.

1,078. "Wright's Improved American Antipest." Geo. S. Wright, Racine, Wis.

PATENTS.

May 8th.

Anti-incrustation compound, E. L. Hurd	190,436
Beer-measures, J. McInnes	190,609
Brass-cleaning and polishing compound, W. H. Bertram	190,407
Can-opener, L. Cutting	190,566
Decanters, etc., stopper, lock for, E. H. Guild	190,579

Dental engine, C. M. Curtis (re-issue)..... 7,670
Drawer-pull, G. W. Tucker..... 190,527
Eggs, desiccating, W. O. Stoddard..... 190,640
Exercising-machine, A. W. Lozier..... 190,503
Food-composition, J. T. Cragin..... 190,472
Gas, process and apparatus for generating and purifying, M. W. Kidder..... 190,498
Hydrocarbon-oil, to water under pressure, apparatus for supplying, W. Major..... 190,603
Labels, attaching, C. L. Pond..... 190,446
Lactometer, L. Heusner..... 190,587
Leather-staining compound, G. S. Wolff..... 190,660
Liquid-meters, N. M. Simonds..... 190,631
Mineral-waters, artificial production of, C. Beyschlag. [See p. 204]..... 190,464
Oils, apparatus and process for the separation and treatment of, H. Frasch..... 190,483
Preserving animal and vegetable substances, composition for, G. Henry (re-issue)..... 7,672
Preserving fruit, Burst & D'Autrey..... 190,415
Seidlitz-powders, machine for putting up, C. A. Doane..... 190,564
Spectacles, temples and joints, manufacture of, P. C. Winans..... 190,659
Spectacles, C. Yocco..... 190,530
Water-filters, Fleming & Burns..... 190,569

May 15th.

Bone-black revivifier, J. Gandolfo..... 190,676
Bottles and jars, composition seal for, C. M. Jacob..... 190,865
Bung and bush, combined, E. Rodier..... 190,905
Corkscrew, M. L. Crannell..... 190,669
Dental chair, J. B. Morrison (re-issue)..... 7,687
Eggs, apparatus for desiccating, Stoddard & Flint. 190,927
Electric lights, carbon for, P. Jablochkoff..... 190,864
Gas furnace, regenerative, C. W. Siemens..... 190,915
Gas holder, W. & R. H. Smith..... 190,918
Gas retort lids, fastening for, N. Jamin..... 190,867
Hop extract composition, J. R. Whiting..... 190,801
Incrustation, composition for removing, H. H. Kreamer..... 190,770
Insect destroyer, C. H. Emerson..... 190,838
Jar cover, hermetically closing, T. A. Weber..... 190,940
Liquid diffuser, G. M. Smyth..... 190,789
Liquid, conveyance of, G. M. Remsen..... 190,902
Lozenge machine, C. H. Hall..... 190,754
Malt extract from the husks or refuse brewers' mash, apparatus for separating, H. R. Randall 190,899
Malt extract, process manufacturing, H. R. Randall..... 7,688
Paint, W. P. Jenney..... 190,761
Refrigerator, S. Gasper..... 190,846
Refrigerators, ice floor for, P. J. Stuart..... 190,928
Scales spring, G. H. Chinnock..... 190,824
Sealing-wax or rosins for use, the same being in drop or disk form of, C. F. Herman..... 190,681
Sheet metal can, H. Miller (re-issue)..... 7,682
Sludge and sludge oil, process of treating, W. P. Jenney..... 190,762
Soap boiler, J. M. Jackman..... 190,866
Teething-nipple, C. H. Rogers..... 190,908
Vegetable slicer, J. Kuchinka..... 190,871

May 22d.

Aluminic sulphate and alum, manufacturing, C. Lennig..... 191,160
Bees-wax, bleaching, H. T. Yaryan..... 190,995
Bottle opener, E. Bacher..... 191,093
Bung cutting machine, P. Medart..... 191,066
Can opener, R. H. Rose..... 191,075
Clams, preparing and preserving, H. W. Buttles.. 191,034
Distillation and apparatus therefor, continuous, S. Van Syckel..... 191,203
Explosive compound, O. Bürstenbender..... 190,954
Eye-glass, F. P. Innarone..... 191,149
Faucet, self-closing, H. C. Meyer (re-issue)..... 7,694
Filtering apparatus, J. Gainey..... 191,131
Fluid meter, C. M. Van Tine..... 191,205
Furnace, metallurgic, W. M. Watson..... 191,209
Gas, manufacture of, M. H. Strong..... 191,082
Glue, manufacturing, C. O. Garrison..... 191,132
Infusions, apparatus for making, R. U. Etzensberger..... 190,964
Oil-still, S. Van Syckel..... 191,204
Paint composition, C. Brown..... 190,953
Refrigerators, lining for, G. H. Levis..... 190,973
Respiratory brace, G. H. French..... 191,042
Sugar liquor rising with the steam from vacuum pans, apparatus for collecting and saving particles of, F. O. Matthiessen..... 191,163
Syringe case, B. T. Sutton. [See p. 172]..... 191,083

May 29th.

Adhesive compositions, A. C. Fox..... 191,420
Atomizer, J. J. Essex (re-issue)..... 7,705
Barrel-washer, A. Zoller..... 191,506
Bisulphide of carbon as a motive power, utilizing, Fell & Bunster..... 191,327
Bottle closing device, W. H. Hicks..... 191,283
Bottle stopper fastener, J. H. Parkhurst..... 191,251
Cement for steam joints, S. Otley..... 191,249
Deodorizing, disinfecting, and fertilizing compound, H. Seligman..... 191,476
Fire extinguishing compound, F. Budy..... 191,306
Glue composition, J. H. Craig (re-issue)..... 7,714
Horse-power, J. & H. Kolling..... 191,442
Ice, manufacture of, C. L. Ricker..... 191,256
Insect destroyer, J. C. Melcher..... 191,360
Lubricating compound, G. W. Sweeney..... 191,488
Lubricating compound, P. Sweeney..... 191,490
Lubricating compound, P. Sweeney..... 191,491
Mucilage bottles, stoppers for, J. Tilghman..... 191,386
Oil-still, J. T. Coleman..... 191,406
Pneumo-electric bath, Huffman & Huff..... 191,432
Preserving wood and other vegetable matter, Rogé, Poret, Baffoy & Dupré..... 191,257
Pyrometer, E. Brown (re-issue)..... 7,702
Stopper attachment, B. Arnold..... 191,295
Syringes, tube holder for, M. Mattson..... 191,357
Truck barrel, E. E. Blinn..... 191,222
Vegetable slicer, T. Schmidt..... 191,375
Vegetable slicer and grater, J. P. Dunwald..... 191,322
Window glass, ornamented, R. M. Tudor..... 191,270

PRESCRIPTIONS AND FORMULÆ.

Standard Formulæ for Certain New Preparations.

(Continued from page 188.)

1. *Pilocarpine.* Exhaust the leaves or bark of jaborandi with 80% alcohol, to which 0.8% of hydrochloric acid has been added. Distill off the alcohol and concentrate the remainder to a syrupy consistence. Redissolve this in a small quantity of distilled water, and filter. Treat the filtrate with ammonia in slight excess, and shake it with a large quantity of chloroform. Remove the chloroform, distill it off and dissolve the residue in water acidulated with hydrochloric acid; then filter, and repeat the treatment with ammonia and chloroform. The chloroformic solution is shaken with water to which drop by drop sufficient hydrochloric acid is added, to saturate the pilocarpine. Foreign substances remain in the chloroform, and by evaporating the aqueous solution, a well-crystallized hydrochlorate of pilocarpine is obtained in long needles grouped around a centre.

On dissolving this salt in water, treating the solution with ammonia, and shaking with chloroform, the pure alkaloid is obtained on evaporating the latter. It appears as a soft viscous mass, little soluble in water, very soluble in alcohol, ether, and chloroform.

It has all the chemical characteristics of an alkaloid, and strongly deviates polarized light to the right.

Note: The medicinally active parts of *Pilocarpus pinnatifolius* (or pennatifolius, pinnatus), or jaborandi, are the leaves and bark. They contain, besides pilocarpine, an essential oil which is mainly composed of a hydrocarbon, and some other as yet unstudied constituents.

2. *Benzoate of Lithium* ($LiC_7H_5O_2, H_2O = 146$).

Benzoic acid	122 parts.
Lithium carbonate	37 "

Mix the benzoic acid with 10 parts of water, add the lithium carbonate, and heat. The latter dissolves under effervescence, and by evaporation the salt is obtained in handsome, flattened, and elongated prisms. It is very soluble in water. One gramme of this salt ignited, moistened with sulphuric acid, and ignited again, should yield 0.376 gm. of lithium sulphate.

3. *Bromide of Lithium* (LiBr = 87).

Bromine	80 parts.
Iron, in filings	q. s.
Distilled water	300 parts.
Lithium carbonate	30 "

Prepare the bromide of iron as previously directed (see above, page 188), filter, and add to the still warm liquid the lithium carbonate. Towards the end of the operation apply a gentle heat. The liquid must have a faint alkaline reaction. Remove the precipitated carbonate of iron by filtration, wash the precipitate with distilled water, add the washings to the filtrate and evaporate the latter, and pour it out so as to form solid pieces, which must immediately be transferred to well-dried, glass-stoppered vials.

One gramme of lithium bromide is entirely precipitated by 1.95 gm. of silver nitrate.

4. *Effervescent Carbonate of Lithium; Effervescent Citrate of Lithium; Effervescent Citrate of Iron; Effervescent Tartrate of Iron and Potassium, etc.*

Citric acid	40 parts.
Sodium bicarbonate	50 "
Lithium carbonate (or lithium citrate, etc.)	10 "

Mix the substances in powder, place them into a flat-bottomed, wide dish, and heat them to about 100° C., under constant stirring, until the powder has assumed a granular form. Then by means of appropriate sieves separate those granules which are of uniform size and preserve them in well-closed bottles.

5. *Citrate of Lithium* ($Li_3C_6H_5O_7, 2H_2O = 246$).

Citric acid	186 parts.
Lithium carbonate	100 "

Dissolve the citric acid in six times its weight of boiling water, saturate it with the carbonate of lithium, and evaporate the solution at a gentle heat. The salt is obtained in handsome prismatic crystals, containing 2 molecules of water. Dried at 100° C. they retain one molecule, and at 115° C. the salt is obtained anhydrous. Lithium citrate is soluble in 25 parts of cold water.

One gramme of the salt ignited, moistened with sulphuric acid, and ignited again yields 0.223 gm. of lithium sulphate.

6. *Iodide of Lithium* (LI = 134).

Iodine	127 parts.
Iron, in filings	35 "
Lithium carbonate	38 "
Distilled water	300 "

Prepare a solution of iodide of iron, using the whole of the distilled water, filter, add the carbonate of lithium to the still warm liquid, and heat gently to promote complete decomposition. The liquid must be slightly alkaline. Filter, wash the precipitated carbonate of iron, add the washings to the filtrate, evaporate the latter, pour it out to cool and harden, and immediately transfer it into well-dried, glass-stoppered vials.

It forms a white salt very soluble in water and alcohol.

One gramme of it is entirely precipitated by 1 27 gm. of silver nitrate.

7. *Lactate of Magnesium* ($Mg(C_3H_5O_3)_2, 3H_2O = 256$).

Lactic acid	q. s.
Magnesium carbonate	q. s.

Dilute the acid with 10 parts of boiling water, and saturate it with the carbonate. Filter and evaporate the solution at a gentle heat. The salt is obtained in white, flat prisms; it is soluble in about 20 parts of cold water, much more soluble in hot water, and insoluble in alcohol.

8. *Sulphite of Magnesium* ($MgSO_3, 3H_2O = 160$).

This salt may be obtained by double decomposition between magnesium sulphate and neutral sodium sulphite; but it is preferable to prepare it by passing a current of sulphurous acid gas through water holding magnesium carbonate in suspension. As soon as effervescence ceases, and the solution after brisk agitation retains the odor of sulphurous acid, the current of gas is interrupted, the liquid is separated by filtration from the precipitate, the latter is washed with a little water, pressed and dried at a very gentle heat. It must be preserved out of contact of air.

It is a white salt soluble in 20 parts of water. It dissolves more readily in a solution of sulphurous acid, which deposits it on evaporation in transparent, prismatic crystals. Exposed to the air it rapidly absorbs oxygen.

100 c.c. of a solution containing 0.79 gm. of magnesium sulphite per litre, mixed with a little starch-paste, absorb 10 c.c. of a solution of iodine containing 12 7 gm. per litre before a permanent blue iodide of starch is produced.

9. *Extract of Malt.*

Malted barley, dried at 50° C.	q. s.

Malted barley, of which the sprouts have attained three-fourths of the length of the seed, is ground in a mill, then treated with 2 parts of water at ordinary temperatures, with occasional agitation, and straining and pressing off the liquid after 5 or 6 hours. This is filtered and evaporated in shallow vessels at a temperature not exceeding 45° C.

Syrupus Chloralis.

Chloral	8.0 gm.
Dissolve in distilled water	12.0 "
Add simple syrup	150.0 "
Ol. Menthæ crisp. (or pip.)	gtt. 1

Anatherin Mundwasser (Aromatic Gargle).

Tinct. myrrhæ	160.0 gm.
" catechu	80.0 "
" guaiaci	40.0 "
" krameriæ	40.0 "
" caryophylli	30.0 "
Spir. cochleariæ	20.0 "
Ol. cinnamomi	20 gtt.
" rosæ	1 gtt.
Alcohol dil	630.0 gm.

Both of the above formulæ are directed to be used, by the Dutch Government, whenever apothecaries are called upon to dispense them without special instructions.

Liniment of Iodide of Ammonium (Th. G. Davis).

Water of ammonia (10%)	2 fl.oz.
Glycerine or soap liniment	2 "
Tincture of iodine	8 "
Alcohol	4 " or q.s.

Mix the soap liniment (or glycerine) with the tincture of iodine, and add the alcohol and ammonia; shake and add alcohol to make one pint. When first mixed it is of a ruby red color, but in two or three days it becomes colorless, affording a clean preparation. It contains iodine and iodate of ammonium.

To Allay Itching (Bulkley).

℞. Pulv. camphoræ, Chloral hydrat	aa ʒ j.
Ung. aquæ rosæ	℥ j. M.

The chloral and camphor are to be carefully rubbed together till a fluid results, and then the ointment is to be added slowly and well mixed. It does not answer when the skin is at all broken; the burning sensation caused on its

first application lasts but a few moments, while the relief lasts for hours.

Oil of Turpentine in Sciatica.

A writer in the *Edinburgh Med. Jour.* recommends the following prescription in sciatica:

℞. Olei terebinthinæ..... ʒ ij.
Olei ricini..... ʒ iv.
Mucilaginis..... ʒ iv.
Aquæ.....ad ʒ ij. M.

The whole to be taken early in the morning. Several cases are given in detail, in which, after two or three trials of the remedy, the pain subsided.

Lotions for Urticaria.

Prof. Hardy, of Paris, recommends the following lotions o be applied several times daily:

℞. Chloroformi..... .. 10 parts.
Olei amygdal. dulc.....30 " M.

In bstinate cases he gives:

. Hydrarg. chlor. corros.....$\frac{1}{10}$ to $\frac{1}{7}$ parts.
Alcoholis..... 10 "
Aq. destill..... 90 " M.

He also gives internally alkaline medicines, and, if necessary, arsenic.

Chloral Hydrate is said to be growing in favor as a local anæsthetic and stimulant in cancerous and other painful ulcers. The solution may vary from twenty grains to a drachm, to the ounce.

ITEMS.

American Pharmaceutical Association.—The Local Secretary, Mr. Henry J. Rose, gives the information that the meeting will be held in the City Council Chamber, which the Mayor of Toronto has kindly placed at the disposal of the Local Committee. It is desired that suitable goods from the United States be sent for the exhibition of pharmaceutical objects, to be held at the same time. Application has been made to the Secretary of the Treasury, and his official reply states "that the law (section 2505 R. S.) admits to free entry articles, *the growth, produce, or manufacture of the United States* when returned in the same condition as exported, and when their identity is established by proof prescribed by the Secretary of the Treasury." It is hoped that many will avail themselves of this provision, and exhibit goods of the above description, in addition to those which may be shown by our Canadian friends. Goods from the United States, for the above purpose, will enter Canada in bond. The permanent Secretary expects soon to be in possession of the necessary details for facilitating the exportation and reimportation of these goods, and will communicate them by circular to all who may desire to exhibit. It is desirable that application for space be made to the Local Secretary, Mr. Henry J. Rose, Toronto, *as early as possible*, before August 15th.

We are also informed that the Grand Trunk Railway will issue round-trip tickets from any station on their line to Toronto, and return at one and one-third ($1\frac{1}{3}$) fare. For many members Niagara Falls will be the natural place of rendezvous on Saturday and Sunday preceding the meeting. Some members have expressed a desire to return by way of Montreal, Lake Champlain, and Saratoga, others by way of Montreal and Boston. Those returning by way of Niagara can obtain tickets between that place and Toronto, by boat across Lake Ontario, at $3.00 for the round trip. Other arrangements are contemplated, and due notice will be given. Any suggestions in regard to the trip will be gladly received by the Secretary, who requests all candidates for membership to mail their applications to him or to the Chairman of the Executive Committee at as early a date as possible.

The Convention of Teaching Colleges will hold their first meeting on the morning preceding the first session, that is, on Tuesday, September 4th, in the forenoon.

College of Pharmacy of the City of New York.—At a meeting of the college held on Thursday, June 21st, a special committee "On Legislation," to whom had been assigned the task of bringing before the Assembly Committee on Health the objection to the proposed law for the regulation of the weights and measures of pharmacists, made their report, in which they announced the success of their efforts, and which contained the following important proposition:

"But the chief plea put in by your delegation, against the passage of the proposed law, having been the admission of the necessity of aiming at a greater accuracy and uniformity of the weights used by pharmacists for compounding medicines, and the promise that the college would take the matter into its charge, and try to accomplish by persuasion what the law was to accomplish by force: it now becomes the urgent duty of the college to take such measures as will best secure the objects aimed at in the proposed law. And your committee would respectfully urge that action be taken in this matter without delay."

After a lengthy and full discussion of all the points bearing on this question, the following resolutions were unanimously adopted:

"*Resolved*, That the Board of Trustees be authorized and empowered to procure for the college two balances for large and small weights, and one set each of standard Troy and Metric weights, for the purpose of giving to the pharmacists of the city of New York the opportunity to have their weights and measures compared with the standards, and verified.

"*Resolved*, That the Board of Trustees notify the Board of Pharmacy, as soon as they have secured the necessary balances and weights, and that the latter Board be requested to issue a call to all the pharmacists of the city and county of New York, to have their balances and weights compared with the standards, and, if found correct, to receive a certificate to this effect, for which a small compensation shall be charged."

Homœopathy in England.—"An exceedingly interesting correspondence on the subject of homœopathy is published in *The Lancet*. It shows a very different aspect of the matter in England from anything here. Dr. George Wyld is the Vice-President of the British Homœopathic Society. On the part of himself and associates he makes overtures asking whether there is no ground for reconciliation between the older school of medicine and his own. He says that British homœopathists have discarded their globules and infinitesimals, and give doses of tangible strength, sufficiently large to effect the object. They admit that Hahnemann's views were often extravagant and incorrect; they will accept the dictum of Hippocrates that some diseases are to be cured by similars, and some by contraries, and, "therefore," adds the Doctor, "it is unwise and incorrect to assume the title of homœopathist." *The Lancet* does not receive the overture in a liberal spirit, but assumes an air of arrogance, and lays down the rule that British physicians can only receive homœopathists into the fold upon a full renunciation of their errors, and a complete acceptance of the ancient doctrine. This scant courtesy on the part of the regular practitioners will chill any tendency to similar concessions among homœopathists elsewhere."

Recent Progress in Pharmacy.—At a special meeting of the Norfolk District Medical Society, Prof. Geo. F. H. Markoe exhibited the following objects, prefacing his remarks by saying that the general drift of recent improvements in pharmacy tends towards the production of improved apparatus, by means of which the pharmacist is now enabled to make for himself—and that, too, without any very expensive outlay—nearly all the officinal preparations in common use: (1.) A set of improved American graduates, the graduation upon which consists of rings entirely encircling the glass, which was shown to be a decided improvement upon the former mode of marking upon one side only. The best form of English graduates are, indeed, marked upon opposite sides; but with these inaccuracy is not un-

frequently occasioned by the mark upon the reverse side not corresponding with that upon the front. With the improved circular marking, however, accuracy in dispensing is rendered simple and sure, provided ordinary care is taken by the pharmacist.

(2.) A Japanese quart tea-pot, capable of being employed as a still for the recovery of alcohol from fluid extracts in the preparation of spirits, which can be heated by either the water- or the sand-bath, the peculiar character of the ware rendering it but little liable to break, even when heat is directly applied.

(3.) An improved copper water-bath, in which the concentric rings were locked together, thus effectually preventing the slipping of the rings, which is so annoying in the common form of water-bath. The rings adapted the apparatus for use with evaporating dishes of flasks of from one ounce to thirty-two ounces.

(4.) A modification of the well-known Liebig's condenser, devised by Hoffman, of Berlin. It was shown to be exceedingly suitable for condensing distillates upon a small scale, having the merit of being very easily cleaned after use.

(5.) A new form of Bunsen burner, only two inches high, but having all the power of the ordinary form of a burner which stands six inches high, and so constructed that the flame does not recede when the gas is turned low.

(6.) A new form of gas tubing, not liable to retain and emit the disagreeable odor of gas, as does the ordinary rubber hose.

(7.) Sulpho-carbolate of sodium. This article was shown in several stages of manufacture, from the crude, dark-colored state, as obtained by first crystallization, to the white, perfectly pure salt. Prof. Markoe gave an account of the sulpho-carbolates as a class of salts, their mode of manufacture, and their properties, noting especially the calcium, sodium, and zinc sulpho-carbolates at present employed in medicine. Attention was called to the fact that the sulpho-carbolates, when pure, do not smell of carbolic acid, and if this odor be present it constitutes the strongest evidence of insufficient purification.—*Boston Med. and Surg. Jour.*

M. Baudrimont has been appointed director of the *Pharmacie Centrale*, of Paris, replacing M. Regnault, who has retired.

John W. Langley has been appointed Professor of General Chemistry and Physics in the Michigan University, and at its last commencement the degree of Doctor of Medicine was conferred on him.

J. B. Caventou, one of the most illustrious chemists of the present century, died recently in Paris, at the age of 82. To him the world is indebted for some of the most important alkaloids in use. He was the first to isolate quinia, veratria, and strychnia, as well as a large number of others. It was he also who first demonstrated the existence of chlorophyll in plants.

He entered the Academy of Medicine at the age of 27.

For 32 years he held the Chair of Toxicology at the School of Pharmacy, in Paris, which he resigned in 1858, despite the urgent entreaties of all his colleagues and pupils to remain.

Dr. Alexander Braun, Professor of Botany at the University of Berlin, died on March 29th. He was born on May 10, 1805, and was well known as an authority on his science.

L'Union Scientifique des Pharmaciens de France, a society formed by the druggists of France for the purpose of scientific investigation, held its first meeting last month in Paris.

M. Bussy, ex-director of the School of Pharmacy, of Paris, was chosen honorary president, and M. Planchon, director of the School of Pharmacy of Montpellier, active president.

Pharmaceutical Exhibition in Leipzig.—During the period from Sept. 4th to 7th—simultaneously with the meeting of the American Pharmaceutical Association in Toronto—the German Pharmaceutical Society will hold their annual meeting in Leipzig. It is proposed to arrange an exhibition of pharmaceutical and chemical preparations, utensils or any other objects which find application in pharmacy. All illegitimate or unimportant articles will be excluded.

The Alumni Society Catalogue of the graduates of the Medical Department of the University of Pennsylvania has lately been issued. Persons desiring it or particulars concerning it, may address Horace Y. Evans, Seventeenth and Green Streets, Philadelphia.

Graduates from Medical Schools.—S. Armstrong, O. B. Batchelder, Harriet V. Bills, D. S. Campbell, E. C. David, L. M. Goodrich, T. E. W. Grover, G. A. Hendricks, I. W. Houston, A. R. Ingram, Juliet E. Marchant, L. G. North, W. Russel, Fanny Searles, J. D. Sherrick, S. S. Stearns, Frances A. Tenny, Sophia Volland, received the degree of M.D. at the commencement exercises of the University of Michigan, on the 27th of June. The course is to be extended to nine months. P. H. Barringer, North Carolina; Emmet D. Boaz, Virginia; J. H. Bryan, Washington, S. C.; Henry P. Cook, West Virginia; Wm. L. Estes, Tennessee; Henry A. Fairbairn, New York; John B. Guthrie, Virginia; Charles B. Kohlhausen, Virginia; Richard R. Lytte, Tennessee; Edward G. Maupin, Virginia; Frank Nash, Virginia; Julian F. Ward, Virginia; James G. Williamson, Virginia, received their diplomas from the Medical Department of the University of Virginia on the 28th ultimo. The University has received $80,000 from some unknown gentleman in Rochester, N. Y., for the purpose of building a Museum of Natural History.

The Cambridge University, of England, has made the change in the teaching of therapeutics inaugurated by the Medical Department of Harvard University in this country, and followed by the Medical Departments of the University of Michigan and the University of Pennsylvania, viz.: the separation of it from instruction in materia medica.

Aluminium of superior excellence is manufactured by the "Société anonyme de l'aluminium," Paris, Boulevard Poissonière 21. Their present prices are: aluminium in bars, $24 per kilo; sheet, $26 per kilo; wire, $31.50.

Export of Sulphur from Sicily.—Girgenti, Licata, Terranova and Catania are the four principal ports in which almost the entire export is concentrated. During the first seven months of 1875, this amounted to 129,797,786 kilos. The quantity on hand for export on Aug. 1st was 33,149,087 kilos.

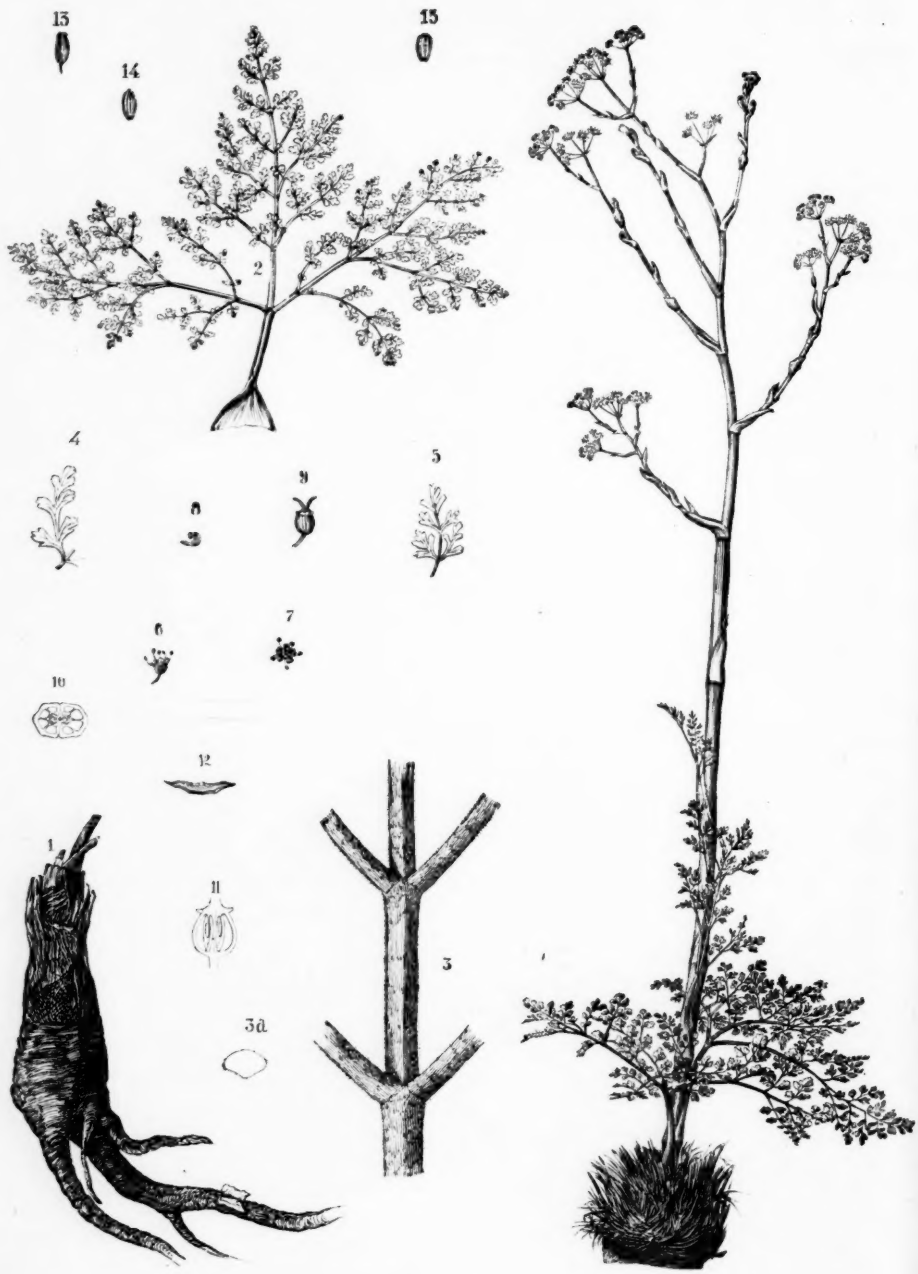
Pharmacy in Roumania.—A new medical journal, published at Bucharest, and called *La Revue de Médicale Roumaine*, gives a number of interesting items relating to the progress of medicine and pharmacy in Roumania. The new chemical laboratory connected with the hospitals and medical school at Bucharest is said to be a model that others may well imitate. A school of pharmacy is in existence, and supplies the army, hospitals, and chemists with physical, chemical, and pharmaceutical laboratories. There is also a growing botanical garden. Each arrondissement has its own medical officer as well as a pharmaceutical ambulance for the gratuitous administration of drugs among the poor.

Substitute for Sand-bath.—A very convenient and easily regulated bath for heating, which may advantageously take the place of a sand-bath, except for high temperatures, consists of a solution of calcium chloride in glycerine, by which a temperature of from 572° to 626° F. may be attained.

A Course of Analytical Chemistry has been organized in the School of Pharmacy in Paris, under the direction of M. Personne, chief pharmacist of the Hôpital de la Pitié.

Therapeutic Hints.—In a recent address Prof. S. Weir Mitchell recommended the treatment of exhausted nervous patients by perfect rest in bed, and by shampooing, and gave the utmost praise to mountain-air exercise—such as walking and driving—as curative agents. He moreover remarked that European physicians are going to the extreme in ordering their patients mineral spring waters as panaceas.

Dr. Robert E. Rogers has been elected Professor of Chemistry in Jefferson Medical College, in Philadelphia, Pa.



Euriangium Sumbul (Kaufmann).
Ferula Sumbul (Hooker Fil.).